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AMERICAN NURSERYMAN

1943

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

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VOL. 77-78



Castanea Mollissima

Spray Humidification and Rooting Cuttings
Pink Flowers for Small Rock Garden
Can Ship Evergreens Bare Root
Landscape Planning and Planting

AMERICAN NURSERYMAN

F. R. KILNER, Editor

Editorial

A TIMELY RESOLUTION.

This is a sellers' market. Because of scarcities, priorities, labor shortage and delivery difficulties, customers are turned down whose orders previously were sought. This is true even in the nursery field, though there is no lack of merchandise to sell.

Don't forget that a different time is coming, though we cannot know when. The day will return when we shall earnestly seek those customers whom we cannot now serve.

In the role of buyers, nurserymen have had opportunity to note the varying attitudes of suppliers in turning down orders. Some have been sympathetic, helpful, always courteous and cordial. They are farsighted. Others apparently relish the unaccustomed role and deliver curt noes and abrupt rejections with no attempt at politeness; indeed, in some cases there is notable lack of it.

Yet rare is the buyer who will not remember, long after the extenuating circumstances have been forgotten, the character of the treatment received. Superior quality of merchandise cannot always make up for the inattention or courtesy of a salesclerk. Even the newsboy who says thank you for your pennies is rewarded by a larger number of customers, some of whom have consciously or unconsciously passed by a more convenient stand with a glum attendant. Numerous illustrations might be given, but anyone who reflects on his own experiences and reactions realizes that the manner of the seller and the treatment of the buyer is a large influence in building a business or breaking it down.

So in adopting New Year's resolutions it is especially timely to include one regarding business courtesy and relations with your customers, or prospective customers. In the midst of business burdens and wartime worries, it is easy to forget. But even though we may have to look beyond 1943 for relief from them, it is a good plan to remember that the con-

The Mirror of the Trade

sideration we show others now may be doubly important when we may later be seeking consideration ourselves.

MANNING TABLE PLANS.

While prepared primarily for war industries, the Manning Table Plans suggested by the War Man Power Commission should be useful to other firms, such as nurserymen, who are facing difficult problems in the replacement of workers going into service or into war work.

The War Man Power Commission is pushing this plan, although thus far only in connection with war industries, and is offering full cooperation for its adaptation to the needs of individual companies. The idea behind the plan is to help a firm to gather all the facts on its own man power problems, to find out how many workers it is likely to lose so that a training program can be started in time.

Now that nondefense industries must be prepared to lose workers to essential industries, it is just as important for them to be prepared for such contingencies as it is in the case of essential industries in their relation to the draft, it is pointed out. Personnel men of numerous nondefense firms already are working with Manning Table Plans of their own. In some instances such voluntary plans have been presented to draft boards, which thus far have not been allowed to accept these, however. With man power draft for essential industries inevitable, it is now felt that no time should be lost by firms doing nondefense work to "find out for themselves where they stand" and what they can and should do to get training programs under way to prepare for the inevitable.

The Manning Table, according to the WMC definition, is a listing, with appropriate supporting data, of the different kind of jobs in a plant or activity from the viewpoint of the type of worker needed to fill each job. The Manning Table records all the different kinds of jobs and describes the skill, training and experience needed by the worker to fill each job. It also requires a showing of the essential characteristics needed by each worker for each job and the estimated length of time required to train a replacement for each worker.

Thus, the Manning Table Plan pro-

vides the basis for planning the orderly withdrawal of workers from the industry into the armed forces or into an essential industry.

Here is a listing of the use of the Manning Table Plan idea as enumerated by the WMC. The Manning Table Plan provides for a complete man power inventory of the company using it. This information forcibly emphasizes to management many important facts:

1. The different kinds of jobs in the establishment.
2. The number of workers necessary to do each kind of job.
3. The type of worker suited to do each job and the possibility of substituting other workers of less skill.
4. The amount and kind of training needed to train an unskilled worker to do each job.
5. Calls attention to training methods which often result in improved training techniques.
6. Reveals the jobs in which women are employed and also those in which women could replace men.
7. Supplies the information needed for forecasting labor requirements in connection with anticipated production program.
8. Often reveals job relationships and suggests a logical chain of promotion or upgrading.
9. Reveals unbalance between number of skilled workers and unskilled, or workers and supervisors.
10. Calls attention to those jobs where physically handicapped or disabled persons can be used.

DEFER FARM WORKERS.

Last month state directors of selective service ordered local draft boards to review the cases of all farm workers, including those already ordered to report for induction, and to defer those found to be engaged in "essential war agriculture."

The new regulation establishes a classification of 2-C for single men engaged in certain types of farming, while the class of 3-C has been set up for farm workers with dependents. Eligibility for deferment in these classes will be determined by a system of measuring farm products they produce in terms of "war units." Local boards will be given considerable latitude in deciding the importance of individual registrants to the war agriculture program.

"Happy
New Year"

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CONVENTION TIME!

Reports of the many trade meetings in the next two months will make coming issues of

AMERICAN NURSERYMAN

read with additional interest by nurserymen throughout the country.

Advertising space will have extra value at no additional cost.

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Spray Humidification and the Rooting Of Greenwood Cuttings

By V. T. Stoutemyer and F. L. O'Rourke

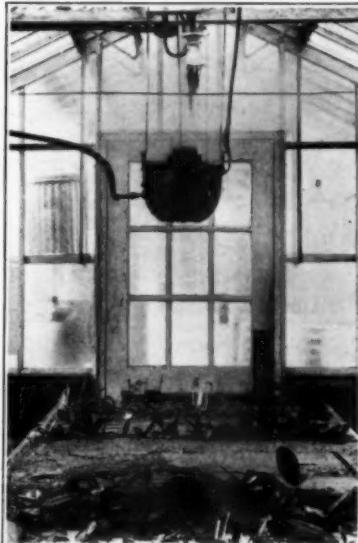
The recent introduction of mechanical humidification of propagating greenhouses is a definite advance in propagating technique. The possibilities of this system are especially attractive in these days of labor scarcity because of the great reduction in the time and attention needed. Aside from the advantages in quantity production, the system is helpful in the rooting of cuttings of difficult plants and is a modernization and mechanization of the technique of bell jar propagation. However, in one respect the use of spray humidification has a great advantage. Bell jars in greenhouses when exposed to light, even if subdued or if temperatures fluctuate, do not maintain the high humidities which some imagine they do under such circumstances. Evaporation does not take place rapidly enough to maintain a high, constant relative humidity under bell jars, although condensation of moisture may be noticed on the glass. The possibilities of maintaining cuttings under fine sprays and also the detrimental effects of excessive washing of the foliage were demonstrated in the pioneer investigations of Dr. M. A. Raines, professor of botany at Howard University, Washington, D. C.

Various types of nozzles, both stationary and rotating, including those operated by compressed air, have been described recently by various experimenters for aiding the rooting of cuttings. One device which has been quite satisfactory in the hands of the authors is the centrifugal atomizer.

Centrifugal Atomizer.

A centrifugal atomizer of the type commonly used in textile mills or other industrial installations is a simple and practical device with a low cost of operation. One of these, installed in a propagating house, is shown in the accompanying illustration. Two models were tried, one having an output of one quart per hour and the other, two quarts. The one of lesser capacity was usable, but its delivery was a little lower than is desirable for a propagating house 15x25 feet while that of the larger was more than adequate. Both cost

around \$50. Larger and smaller units of this type may be obtained. In these atomizers, a turntable of metal or molded plastic is connected to an enclosed electric motor which drives it at a high rate of speed. A small tube or cone is used to lift the water to the turntable from a reservoir tank kept at constant level by means of a float valve. Droplets of water are thrown off forcibly and hit a baffle surface around the periphery, thus producing a fine mist or fog, which is lifted from the atomizer by an air current provided by small fan blades



Centrifugal Atomizer in Propagating House.

attached to the rotating unit. Any water not atomized flows back into the reservoir, thus making the water consumption negligible in comparison with the requirements of some other systems. The amount of electrical current used by the motor is also slight, which also aids in maintaining a low operating cost. These units have a high degree of portability and flexibility in use if the connection to the water system is made with a rubber hose rather than with a pipe, and a waterproof insulated cord with a plug is attached to the motor.

Humidistats may be used to provide an intermittent operation of the

atomizers as needed. However, since the continuous maintenance of a saturated atmosphere in the propagating house was desirable for many cuttings, manual operation was entirely satisfactory. Good results were obtained when operation was suspended during the night, but with some cuttings, continuous operation was safer. Humidification could be discontinued during rainy or cloudy weather.

Spray humidification permits rooting at comparatively high temperature; this is fortunate, since sometimes ventilation must be restricted in the propagating house to avoid an excessive loss of moisture. Covering some of the openings of the side ventilators with muslin of a width sufficient to permit opening and closing produced some reduction in temperature without serious loss of humidity due to drafts. However, in shaded houses, ventilation sometimes has little effect in reducing temperatures.

Rooting Medium.

The rooting medium was found to have an important effect on the rooting of cuttings under mechanical spray humidification. On this influence only a few generalizations may be made since so much depends on the species. The results of comparative tests of four species are shown in table I. In this table the number 1 indicates the heaviest rooting and 6 the lightest. Mixture of peat with the sand of the rooting medium was undesirable, in some cases possibly because the moisture-holding capacity was too great for some plants.

Table I shows that the outstanding rooting medium with all test subjects was a mixture of approximately equal parts of sand and a fluffy material used in the building trade for insulation, and known variously as mikelite or vermiculite. This is a mica-bearing mineral expanded by heat. This material usually produced heavier roots than others and has the great advantage of being able to improve the rooting qualities of relatively poor sands. Although slightly alkaline in reaction at first, it became neutral or slightly acid after a short period of leaching.

Although perfect drainage and

good aeration are necessary with spray humidification, an excessively open and porous rooting medium was found to be undesirable. Thus the addition of well leached, porous cinders to sand reduced rooting in cuttings of the difficult species, the Chinese fringe tree, *Chionanthus retusus*. Responses to the fineness of the sand differed perceptibly. In a test of rooting of cuttings of *Ilex crenata* var. *convexa* in both coarse and fine white glass sands, the finer grade produced the heavier rooting.

Table I. Relative Heaviness of Rooting of Cuttings under Various Locations and Rooting Media.

Rooting Medium	Location	Actinidia arguta	Relative Effectiveness of Medium of Various Species		
			Ligustrum quihoui	Pachysandra terminalis	Rhododendron poukhanense
Bank sand	Under humidifier	3	4	4	2
River sand	Under humidifier	2	3	6	4
Sand and mikolite	Under humidifier	1	1	1	1
Sand and peat	Under humidifier	4	6	2	3
Bank sand	In closed case	5	2	5	5
Sand and peat	In closed case	6	5	3	6

Humidification in Winter.

The use of mechanical spray humidification has proved to be highly advantageous in maintaining many sorts of cuttings in good condition during the summer. The system was found also to be valuable in winter, especially at night. Recording humidographs in the propagating house revealed sharp drops in the humidity at night whenever the heating system was operating. A somewhat larger unit is needed to maintain humidity in winter than in summer because of the greater quantity of moisture withdrawn from the air by condensation on glass, as water or as frost on the glass. Humidity is hardest to maintain on cold days.

The cuttings of broad-leaved evergreens taken in fall or early winter responded especially well to mechanical humidification. Thus eighty-five per cent of the cuttings of the Toner variety of American holly made on January 20 were rooted by March 23 and these cuttings had an average root spread of ten centimeters. Similar cuttings set in a closed propagating case at the same time were only sixty-five per cent rooted and the average root spread was only one and seven-tenths centimeters.

Control of Insects and Diseases.

The conditions under spray humidification appear to be unfavorable

for the development of insects, and infestations appeared in only a few cases. A few species by reason of their broad leaves were found to harbor insects on the undersurfaces, and some infestations of thrips developed on leaves of cuttings of rhododendrons.

Contrary to what might be expected, the maintenance of a high humidity about the cuttings did not increase the attacks of cutting bench diseases. On the contrary, a remarkable freedom from attacks of fungi

ture stage will collapse. Leaves may be lost if the cuttings are crowded unduly. Fallen leaves should be removed from the cutting bench periodically. An occasional gentle washing or syringing of the cuttings has been followed as a regular practice and is believed to be beneficial, although conclusive experimental evidence has not been obtained. The routine sanitary measures which were taken do not seem adequate to explain the unusual freedom from cutting bench diseases.

Limitations of Mechanical Humidification.

In spite of its advantages, spray humidification does not solve all of the problems of propagation by cuttings. Although the length of time over which cuttings may be taken and rooted is extended somewhat, the time for taking the cuttings remains a highly important and sometimes critical factor in the results. Cuttings of certain subjects root with great difficulty if the growth is too hard. Thus with the difficult species, *Chionanthus retusus*, the Chinese fringe tree, rapid and heavy rooting was secured in the vicinity of Washington, D.C., only with those cuttings taken in early June. Cuttings of another difficult subject, *Cyrilla racemiflora*, were less exacting, but the heaviest rooting was secured with cuttings made in late June or early July.

has characterized all of the tests which have been made over a period of two seasons, and the cuttings have been free when those in ordinary propagating cases have died. Virtually the only cuttings which have been lost through attacks of fungi have been some of *Philadelphia* taken early in the season. The sand in the propagating benches was not changed, but reasonable cleanliness was maintained. The reasons for the apparent control of cutting bench fungi by spray humidification cannot be assigned definitely at the present time, but a number of possible factors may be cited. The washing of the foliage may carry away certain spores, but many cases in which the humidification was not sufficient to produce condensation on the foliage cast doubt upon this as a factor of any importance. Better retention of turgidity and faster rooting of the cuttings may render them more resistant to attacks. Another reason which may be suggested is the ionization of the atmospheric oxygen which takes place upon the forcing of water or air out of a jet. A spray of fresh water produces negative and salt water positive ions. Ionized oxygen has had some of the peripheral electrons removed and is known to have certain disinfecting properties.

Even with humidification, certain precautions should be observed. Cuttings taken in an excessively imma-

Cuttings of some plants may be rooted quite as readily in ordinary propagating equipment as under spray humidification. In such cases, the spray is useless but not harmful. In still other cases, as for example some of the plants of desert regions, the presence of excessive moisture may be dangerous and cuttings of such plants are commonly dried out somewhat before inserting in the propagating bench. Plants are adapted to such varied habitats that it is hardly to be expected that all will respond to uniform propagating conditions. However, the number of plants which respond well to spray humidification is surprisingly great.

Advantages of Humidification.

One of the greatest advantages of humidification is that the cuttings may be taken early in the season at a stage most favorable for rooting. Sometimes such cuttings are difficult to hold in good condition by means of conventional propagating equipment. Thus greenwood cuttings of various varieties of Oriental quince, *Chaenomeles lagenaria*, could be rooted well if taken early and treated

[Continued on page 24.]

Can Ship Evergreens Bare Root

By John J. Pinney

Undoubtedly the most serious problem faced by nurserymen is that of labor shortage. Many a nurseryman has remarked recently that the volume of business he can do is limited only by the help he can get to fill the orders. The hiring of high school boys and of women is helping to solve the problem, but there are certain jobs in the nursery requiring skill and strength that boys and women cannot well perform. One of the most important of these jobs is the balling and burlapping of evergreens. The volume of business done in evergreens by nurserymen in general in the spring and fall of 1942 was considerably reduced by the inability to get the trees dug.

The suggestion that I am going to make to help overcome this handicap may meet with sharp criticism, but I know from experience that it has some merit. I grew up in a nursery that specialized in evergreens, in fact grew nothing else. While the major portion of the product was sold in small sizes for lining out, many trees running up to three feet or four feet in height were sold. All of these evergreens were dug bare root and shipped in moss. Had the results been unsatisfactory, we certainly should have heard about it.

There are many older nurserymen active today who clearly recall shipping evergreens two to three feet, three to four feet and even larger without a ball of soil. One nurseryman in Iowa told me recently that he remembers when farmers used to come to the nursery on dark or rainy days and haul away spruces, pines and junipers as tall as four feet with nothing around the roots but straw. Many of these evergreens are growing today in the handsome windbreaks and shelter belts seen all over Iowa.

The 1870's to the early 1900's saw the period of greatest development in the great plains area. That was the heyday of the nursery salesman, or "tree peddler," as he was usually known. Of course, fruit trees were his main stock in trade, but even in those pioneering days the farmer gave some thought to the beautification of his grounds. Many thousands of red cedars stand today as mute testimony to this aspiration.

Oftentimes the house has tumbled down or rotted away, but the tell-tale red cedars give notice to the passer-by that once a family lived there. All of these red cedars were shipped from the nursery with no protection around the roots except straw or moss. Necessarily, on account of poor transportation facilities, these trees were out of the ground for long periods, yet a remarkably large number of them survived.

In recent years certain successful mail-order houses have been offering bare-root evergreens to their customers in fairly large sizes. Undoubtedly the original motive for this was to save transportation expense, but the fact that they are continuing to offer bare-root evergreens, and other mail-order houses are following suit, is pretty good evidence that it works.

Of course, a great deal less labor is involved and less skill required when digging and shipping evergreens bare root than when they are balled and burlapped. Another angle (and this would please ODT)

is the fact that more bare-root evergreens can be shipped in less space and weigh much less than B&B stock.

A few suggestions might be welcomed by those who care to try selling evergreens bare root: Start digging much farther away from the trunk of the tree than you would when digging with a ball of soil. This is to get a larger percentage of the roots. In fact, you can often give the customer more roots on the bare-root tree than on the B&B tree. As soon as the roots are out of the ground, they must be puddled by dipping in a thin mud preferably made of clay. It is absolutely essential that the roots never be permitted to dry out. The sap of the evergreen is resinous, and when it is once dried out, no amount of soaking will restore sap movement.

Protect the roots with tarpaulins to prevent drying out on the way to the packing shed. Wet sphagnum moss is probably the best packing material, but peat moss or even wet straw could be used. Waterproof paper or paper-lined burlap should be used to hold the packing material in place, and this should be tied tightly around the trunk. The smaller-size trees can be shipped in boxes, care being taken to prevent the foliage from getting wet and to allow enough ventilation in the box to keep the tops from heating. A good method of shipping the larger evergreens is to pack the roots in a basket as shown in the accompanying illustration. A cord wrapped around the trunk and tied onto the handles will hold the tree in place.

FRED BRADEN, Wayzata, Minn., originator of the Wayzata strawberry, has sold his interests there and has gone to California. His decision to sell out was caused mainly by labor difficulties.

ALMOST 10,000,000 tires were turned in to the government under the idle tire purchase plan up to December 5. In domestic trade channels as of September 30 were, in addition, 9,000,000 new passenger car tires, compared with the normal replacement sales of about 30,000,000 per year. Released under the tire-rationing program between January 5 and September 30 were about 1,500,000 new passenger car tires.



Evergreen Packed in Basket.

Landscape Planning and Planting

By Joseph P. Porter

The term gardens has been broadly applied and today it tends to lack specific meaning. This is largely due to the fact that this subject has not been studied scientifically. Practically all written material concerning gardens has been prepared for popular consumption. The countless articles and books that we have seen are either inspirational in character or deal with the horticultural aspects of the garden. These writings are important and have their place, but there is great need for accurate knowledge concerning the design of gardens. In this series it is the author's hope to set before you some of this newer material.

First of all, it is necessary that we should define our subject. The word garden really means an enclosed space, and gardening is separated from agriculture and horticulture by being conducted within an enclosure. The original root of the word garden carries the meaning to protect. Long years ago it was necessary to erect a barrier around the plants that were being grown in order to protect them from the depredation of man and beast. Thus the enclosed area where plants were grown became known as the garden. It is interesting to note that while it is no longer necessary to guard-in our specialized plantings of choice flowers for the purely economical reason that existed in olden days, the desirability of some form of enclosure either by walls, fences or shrub planting still remains. The aesthetic value of these backgrounds and boundaries was so great that they literally made the garden. Without them the garden loses most of its character and charm. Later in the series the question of boundaries will be discussed thoroughly.

In England the term garden is often applied to the entire residential property as well as to the several internal specialized areas of flowers and vegetables that may be present. This is partly due to the fact that the entire grounds are usually quite completely shut in by hedges, walls or fences, and this, therefore, technically makes each homestead a garden. In America and many other countries the trend is to call by the term garden only those sections of the property given over to the extensive cultivation and display of special plants and garden features. This is most certainly justified and quite reasonable. For one thing, it

XX. THE PRIVATE AREA:

Gardens.

Twentieth in series of monthly articles on the application of the principles of landscape architecture to the property of Mr. Average Citizen, by the professor of landscape design in the department of horticulture at Cornell University.

allows a much clearer and intelligent basis for discussion and study of the entire problem of home landscape design. Without it, we could not think and talk in terms of the major and minor unit areas. True gardens are, of course, one of the important minor unit areas.

To the landscape architect and to us, the word garden has special meaning, although the interpretation is still broad. To assist us in our thinking I should like to quote three descriptive definitions used by various writers. A garden is: (1) Art fused with nature. (2) The climax of the landscape scheme. (3) The outdoor living room. Each of these contains an important truth, but no one of them or even all of them together is wholly adequate. In the field of art and aesthetics satisfactory definitions are rare, since only recently has scientific thought been applied to these subjects.

Actually a garden is any area of land set apart in which are arranged, for pleasure or profit, land features, plant materials or any other item connected or associated with outdoor use and beauty. This statement infers many things, all of which are true and important. It will be noted that the garden is a specialized area. It serves a specific purpose. It is both practical and aesthetic. Its function is to serve those who own it or use it. It is the bringing together of those things of nature's that are most loved and appreciated and the relating of them to the daily home life of the individual. All of this material is arranged both for utilitarian and aesthetic purposes. Both of these purposes must be satisfied and they go hand in hand, supplementing and complementing each other. The supreme objective of the garden is the satisfaction of physical and mental or spiritual recreation.

Gardens and gardening are practical. While it might be possible for man to live without gardens, he has ever found them essential elements for a healthy, contented life.

Summing up, we find that the garden is utilitarian, that it is the source of both physical and spiritual recreation. It affords man intimate contact and communion with nature. It is developed as a means of serious art expression.

If we are to know gardens, we must build our appreciation of them upon a solid foundation of truth and knowledge. Basically such a study is built upon art and aesthetics. The approach to these subjects may be scientific and emotional or sentimental. In most of the literature on the topic of gardens the scientific approach has been neglected and authors have become effusively sentimental. This has emasculated and devitalized the theme. This would never have happened had some great champion stressed the fundamental, scientific importance of art and gardens and if all of us consistently used those thoughts as the basis of our arguments and discussion. Our appreciation and enjoyment of gardens is not decreased by treating them critically and analytically. The old adage, "Familiarity breeds contempt," is wholly false relative to nature, art and science. With these subjects the better our acquaintance and the clearer our understanding the greater become our interest, enthusiasm and appreciation.

A thorough study of gardens was started a few years ago by the department of floriculture and ornamental horticulture at Cornell University. While this project is far from completed, a large number of facts, principles and ideas have already been obtained. The substitution of teaching and research work in military camouflage has interrupted this program. Work will be resumed as soon as possible, for the results to date have proved the immense value of the project. In these studies one of the first things that became apparent was the necessity for properly classifying gardens. A second outstanding necessity was the clarification and definition of terms commonly used in discussing them. Until this was done it was quite impossible to know accurately what another individual had in mind when talking or writing concerning gardens and garden design. Incidentally, this

came about in a simple and natural way. A special course in garden design had been inaugurated; the first work to be done by the class was a study and criticism of several hundred pictures of gardens. These illustrations included situations varying greatly both as to quality and kind. Trips were made to neighboring cities, where many gardens were visited and studied. All of these were criticized and eventually analyzed by the class. Our first procedure was to separate photographs of all gardens studied into five groups, representing quality from very good to bad. Practically no disagreement was encountered in making the decisions. Each group was then carefully analyzed in an attempt to discover the strong and weak points of each garden and the reasons why it had been placed in its particular group. This revealed a number of enlightening facts. It was quite evident that certain things were always true of gardens placed in the two higher-ranking groups. All of these illustrations produced clear-cut impressions relative to both design and materials. They left no question in anyone's mind relative to their purpose and meaning. All effects were definite. In contrast, those gardens that were ranked as indifferent, poor and bad lacked these characteristics or qualities.

All gardens may be classified by means of three descriptive divisions, and every garden shows evidences of all three. These divisions relate to nature, man and material. Three short words were selected as labels for these divisions. 1. Type—nature. 2. Style—man. 3. Class—material.

Type is the first consideration, for it deals with nature itself, but nature nevertheless influenced to a more or less degree by man. You will more clearly understand the meaning of the word type when it is defined as the spirit of nature as reflected in the garden. Type is common to all and similar in all national, historic and period styles of gardens.

Every garden displays the effect of nature, but the degree of that display will vary greatly. We might all

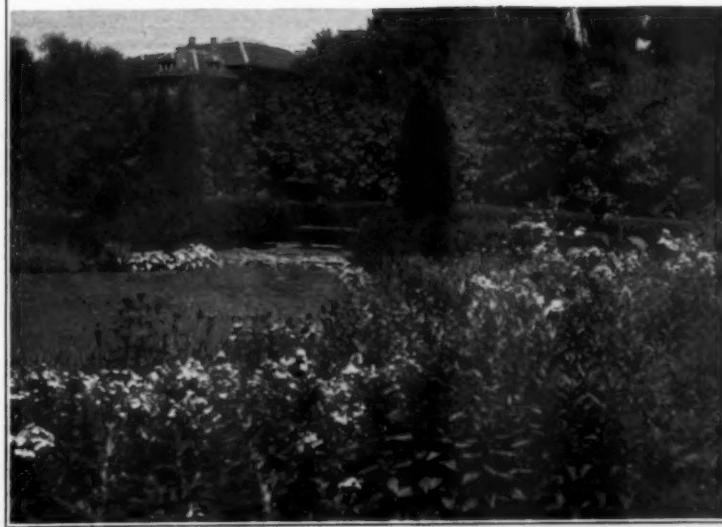
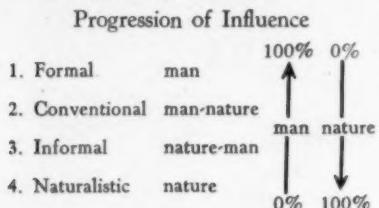


Illustration 79.—A formal (type) Virginian colonial (style) rose (class) garden. Note severity of lines, regularity of design, geometrical balance and artificial arrangement of plants.

Illustration 80.—A conventional English-American feature garden. Note informal arrangement of all major plantings and occult balance of features. Geometrical balance of the plants by the pool is unfortunate. Those on the right side should have been smaller.

Illustration 81.—An informal American (style) perennial garden. This type is now quite popular.

gardens according to a scale indicative of the degree of nature apparent in each. The purely formal would occupy one extreme of this scale, with the naturalistic at the other end. In between these two extremes there might be all manner of semiformal and informal gardens. This might be shown graphically as follows:



When the better gardens studied were checked against this imaginary scale, it was quickly discovered that they could not be located or ranked along its entire length. These good gardens automatically fell into four groups, occupying somewhat separated positions on the scale. Three of these groups were immediately recognized as having names. They were known as formal, informal and naturalistic gardens. One group, however, appeared to be a new type. It differed greatly from any of the three that were known. It took a position upon the scale between the formal and the informal, since it showed more of man's influence than the informal and much more of nature's spirit and influence than the formal. This type of garden we have called conventional for reasons that will be explained later. May I repeat that all good gardens fitted into one of the four types listed above?

When the poorer gardens were checked against this scale, it was noted that while many of them fell into one of the classifications listed above, a great number would occupy positions intermediate between these types. In other words, many of these poorer gardens were neither formal nor informal, since they were part of both. In large measure this accounted for their failure.

In designing gardens best results are obtained by the selection of a given type and close adherence to the characteristics of that type. The more clearly defined the type, the more superior the effect of the garden. The characteristics of these four types will be described later. Right now we must return to our original classification and consider the second division, which we call style.

The spirit of nature is universal and international. Man, on the other hand, is intensely national and colloquial. While the effect of nature varies from place to place and season to season, she is governed by laws

and forces that are eternal. Man is temporary and temporal. He is governed by whims and moods. His likes and dislikes alter from day to day and decade to decade. There is a vast difference between the spirit or the effects of nature and the spirit or effects of man as it shows in garden design. It is the spirit of man in the garden that gives it its style. Style therefore relates to countries and people, to people as they live during various periods of time in any country.

In general, styles are named after the people or something that denotes the people of a particular period and place. We speak of English style, but we also recognize a number of unique period styles that have been common to the people of England. The gardens and architecture developed during the reign of the Tudors varied greatly from that achieved during the Elizabethan period. These are English period styles. We also find that during a given period the style of the wealthy landholder was distinctly different from that of the peasant farmer, and we make a differentiation between these.

The term style when used in connection with gardens must carry the same meaning that it possesses in relationship to art, architecture, jewelry, clothing, furniture and music. This has not been the case, and confusion has resulted. We find writers referring to the formal and the natural styles of gardens. This we now believe to be incorrect, for the term style should always relate to what people produce in a given place at a given time. Formal gardens might be built in Italy, England, America and Argentina during the same year. They would all be formal gardens and identical in type, yet there would be vast differences in their appearance and these differences would be largely due to style and would be designated by the country's name when referring to their style. Every good garden possesses both a type and a style character and classification.

It is not quite enough to know the type and style of a garden alone. There must be one more division or descriptive indication if a clear picture is to be made of a given garden. We call this division class. If we define the word class it should be described as the motif or story of the garden and this is usually indicated by the kind of material that dominates the display.

Almost all gardens, and certainly the best of them, contain some definite or outstanding motif. They are built around an idea. They display some particular architectural effect or

plant material. Garden motifs may be simple or complex. In the majority of cases the main idea is supported by motifs of secondary and sometimes tertiary value or weight. In good gardens these never conflict with the main motif, and there is never any question as to what dominates and gives the garden its title and story. So in examining a group of gardens, we call this garden a water garden; the next is an alpine garden; next comes a perennial garden, then a rose garden, evergreen, fruit, herb, terrace, rock and a host of others. In each case the dominating material used or the major effect gives the garden its name as to class. When we speak of the alpine garden we know that alpine plants definitely dominate the scene. If two materials appear to have approximately the same weight or interest in a garden, rest assured that the appearance of that garden will not be good. One of the two must dominate; the other must support the main idea. Water may appear in an alpine garden. Its presence is usually most desirable, but it should never dominate the effect of the alpine plants. It should become a background and afford a setting for the plants only. The type of this garden would be naturalistic. Next consider a formal type of garden. This one is composed of water and roses and a summerhouse. These three materials might be arranged to form a very attractive small garden. They fit together reasonably well, although I should much prefer the use of a sundial rather than a circular pool of water as the central feature of this garden. The effect of the garden that I have in mind, however, is weak. All three materials excite equal interest and attention. It is neither a rose garden nor a water garden and is certainly anything but a garden for meditation. In other words, it has no class distinction and cannot be classified accurately as to motif.

In the special studies that were made at Cornell, all gardens that were rated as good showed unmistakable identification as to type, style and class. If we understand these three terms, it will be possible rather accurately to describe a given garden by relatively few words, but every garden must be designated as to type and style and class.

ROY M. NORDINE, for several years with the Charles Fiore Nurseries, Prairie View, Ill., has accepted the position of propagator at the Morton Arboretum, Lisle, Ill. He is a son of the late Charles M. Nordine, the famous propagator of the Jewell Nurseries, Inc., Lake City, Minn.

CHRISTMAS ROSE.

Christmas roses are, of course, not roses at all, but hardy, perennial, evergreen-leaved plants, and their botanical name is *Helleborus niger*. Of this there are a number of forms, including *praecox*, *altifolius* and *multiflorus*, the two last-named varieties proving to be the best. In Great Britain they are grown commercially to a considerable extent. Some growers lift batches and let the flowers open in a cool greenhouse. Others place glass coverings over beds of the plants outdoors to keep the flowers a purer white. The hellebores all need moderate shade, and in England quantities of them have been grown in semiopen woodlands, in company with certain hardy primulas.

While the hellebores are perfectly hardy, it has been a practice for years on private estates to plant them in well prepared beds in brick frames, where they have sufficient head room; to run screens over them during the hottest months of the year, and in the fall, when buds are showing, to place sashes over them to keep the flowers clean. It takes several years to grow really big clumps, which carry 100 or more spikes of bloom, and in the case of *altifolius* and *multiflorus*, well above the foliage, which suggests that of peonies, dying away each spring as a new crop of leaves pushes up. As to compost, one containing old well rotted manure, leaf mold, loam, sharp sand and ground charcoal suits them admirably.

Propagation is by seeds or division. Germination is slow, and it usually takes three years to grow fine flowering plants. Care should be taken in buying seeds, as many growers have sown seeds labeled *niger* that have come up abundantly and the plants have turned out to be a robust, green-flowered variety named *viridis*. Stocks of *Helleborus niger* in the United States are not large, but anyone having the plants can readily sell them, as the name itself lends a charm which thrills many persons.

Illustration 82.—A naturalistic (type) American (style) water (class) garden. Compare this with illustrations 83 and 84.

Illustration 83.—A naturalistic Japanese water garden. While this is not pure Japanese style mainly because of the geographical location, it is close enough to give a marked contrast with the style shown in illustration 82.

Illustration 84.—A formal American water garden. Dignified and showy; an illustration of the so-called "frozen music" of our contemporary critics.



Discuss Fruits at Kansas Meeting

By S. W. Decker

The seventy-sixth annual meeting of the Kansas State Horticultural Society, held at Kansas State College, Manhattan, December 3 and 4, exceeded in attendance the hopes of those in charge for one-fourth of the normal registration, for it was better than one-half the usual figure.

Victory Gardens.

Prof. W. G. Amstein and Prof. S. W. Decker held a round-table discussion on victory gardens and factors influencing successful vegetable gardening. It was stated that in 1941, according to the best available figures, fifty-one per cent of the farm families grew a vegetable garden worthy of the name. The victory garden goal was an adequate vegetable garden on seventy-five per cent of the farms. Records show such gardens were present on eighty-three per cent of the farms of Kansas in 1942.

Pictures taken from gardens throughout the state were shown which demonstrate what can be accomplished by proper use of wind-breaks. In some instances the wind-breaks were beautifully landscaped plantings, while in other cases Russian thistles stacked between two fences, burlap hung over wire fences, tall crops interplanted among low-growing crops or sorghums not needed for winter feed standing against a fence answered the purpose. Irrigation came in for its share of discussion along with varieties in their consideration of factors influencing successful gardening.

Peach Growing.

Prof. J. R. Cooper, University of Arkansas, Fayetteville, spoke on "New Developments in Peach Growing." He suggested that a study be made of the soil and that the lacking elements be added rather than a peach fertilizer. Apply fertilizers when and only when the soil is found to be lacking. Cover crops are grown to add organic matter and nitrogen and in some cases to conserve soil by preventing erosion. Lespedeza has come into general use in Arkansas, but is to be recommended only where soil erosion is a serious factor. Lespedeza makes its rapid growth when the temperature is high and rainfall is low, thus causing competition for moisture supply. When used it is

recommended that the crop be clipped to retard rapid growth. Cover crops that are planted in the fall and destroyed during the spring are generally preferred.

Commercial fertilizers should be applied early enough so that they can penetrate to the depth of the roots by the time they are most needed. Nitrogen fertilizers penetrate with comparative rapidity. In sandy soils they will penetrate to a depth of two feet in two months. Potash penetrates not to exceed two inches in a year, unless it is transported by root systems.

Elberta was recommended as the standard peach variety. It matures at a season when there is danger of high temperatures and drought. Generally speaking, varieties maturing later than Elberta are not to be highly recommended because of drought and temperature hazards. Varieties maturing earlier than Elberta have some advantages, but for commercial production, especially when they must be shipped, there is no variety equal to Elberta. Varieties which mature earlier than the Elberta are, therefore, recommended for moderate plantings only.

Early and midseason varieties set fruit more freely than late season varieties regardless of blooming season.

Elberta drops its foliage early, frequently as much as four weeks earlier than some of the better known early-fruited varieties. It is believed this causes Elberta to be more hardy to trunk and crotch injury early in the season than varieties which drop their foliage later. However, a plant begins to call up its stored reserve as soon as the foliage drops, and when the reserve is reduced to a certain point growth will be renewed whenever temperature permits. Therefore, Elberta is more subject to late spring injury than the varieties which drop foliage later.

Apple Scab Fungus.

Dr. J. C. Dunegan, associate pathologist, United States Department of Agriculture, spoke on "Control of Apple Scab Fungus." He said that the main source by which apple scab overwintered was upon fallen leaves. While twig and branch lesions are to be found, they are a minor source of new infections. Therefore the control measure should be aimed at

the fallen leaves. Spores discharged from the fallen leaves and carried by air currents need prolonged rainy periods to cause infection. At temperatures from 68 to 75 degrees successful infection of leaves requires four to six hours. If the temperatures are lower, thirteen to eighteen hours are required for infection. The rate of growth is also retarded by temperatures above 75 degrees.

Primary infection may be reduced by spraying the fallen leaves or by protecting the newly developing leaves by a fungicide. A promising spray for fallen leaves is a one-half per cent solution of dinitro-o-cresol applied at the rate of 600 gallons per acre. This spray is highly caustic to growing plant parts and so should be applied before growth starts in the spring and even then with care to keep it off the tree branches. Lime-sulphur concentrate at the rate of 1 to 50 is recommended for foliage protection. If a good control of the primary infection is obtained, additional spray applications of finely ground sulphur will give good control. However, if primary infection is high and weather conditions are favorable for further infection, lime-sulphur spray is recommended.

Lime-sulphur used frequently upon a tree is likely to cause an undesirable effect called sulphur shock, resulting in a stunting of growth, small leaves and reduced shoot growth.

A search for materials to substitute for lime-sulphur has received much attention and with some success. Pethomiozine is one of the most promising of the organic compounds. It is not available at low price at present and does not retain its effective fungicidal covering over a long period.

Ferric dimethylthiocarbamate is cheap and gives promise of giving excellent control. It seems to spread and adhere better than any of the organic materials tested so far.

Nut Growing.

James Sharpe, Council Grove, spoke on "Uncultivated Acres," or nut growing in Kansas. In Kansas there are uncultivated places, usually along the ravines, and there he would plant nut trees. His plan is to clear a place every fifty feet and plant a nut tree. After the tree has be-

[Continued on page 32.]

Pink Flowers for Small Rock Garden

By C. W. Wood

Continuing our inquiry on plants suited to small rock gardens, especially those best fitted to a mail-order trade, which was initiated in the preceding issue with notes on blue flowers, we shall now attempt to cover those of pink color. Unfortunately, many gardeners are prejudiced against pinks which carry blue or violet in their make-up; so we shall have to be careful in our choice of magentas. It has been my observation, however, that not many customers who see pure magenta flowers in this nursery profess a dislike for them. It is the ones with a dirty shade which bring forth objections. So long as customers could come to the nursery and pick out their own colors it was not so important that careful descriptive terms be used, but now that we must put more dependence on the printed word, it will no longer be good policy to dismiss a magenta flower with the old favorite "rose-pink."

Again taking our plants in alphabetical order, *aethionema*, a large group of crucifers, mostly confined to the eastern end of the Mediterranean, gets attention first. The plants are so confused in our nurseries that names mean little; consequently, little space will be devoted to that phase. Generally speaking, the plants are tiny shrubs with gray or blue-green leaves, which are no small part of their charm. That is true, at least, of most kinds now available, though it does not always apply to the annual and biennial kinds, among which one can find not a few weeds. But in the perennial kinds now available in plant and seed lists one is quite sure to get a lovely little shrublet, varying somewhat in the gray or blue of its leaves and in the shade of pink in its flowers. With one or two exceptions, which are rarely available here at present, all will be hardy, all will be easy in any sunny well drained situation and all will be desirable garden ornaments.

Although the species are generally propagated from seeds, seedlings often show some variation in flower color and in leafage. Thus, *A. grandiflorum*, which should have by far the largest flower in the genus, often is indistinguishable from others in that respect, and *A. schistosum*, which should be blue-silver as to foliage, may be seen as green as *A. Warley*

Rose. It means, of course, that seedage is risky business unless seeds are saved from isolated plants of the true species. It is far better to grow one's plants from cuttings, taken from new growths after flowering and rooted in an outdoor shaded frame. In the north it is safer to fat up the cuttings after they are well rooted and winter them in a protected frame or cold house rather than leave them in the open to suffer from repeated freezings and thawings and the attendant heaving. The best selling *aethionema* at present, according to my experiences, is variety *Warley Rose*. It has been aptly likened to a miniature rose daphne and needs no other description than that. Grow it from cuttings.

There seems to be an impression among nurserymen that no *androsace* can be cultivated in our climate with any degree of satisfaction. That is a mistake, of course, as all know who have tried to get acquainted with the genus. Actually, there are several kinds which do well in the east under ordinary treatment. As few are generally available, they will not be mentioned now, but one kind, *A. sarmientosa chumbyi*, deserves a little space in these notes. Here we have a densely woolly plant, lovely in its tight silvered rosettes and a most charming thing for a sunny slope or plain in the rock garden, where the drainage is sharp. There it should give a good account of itself, asking no more than ordinary attention during dry weather. It is showy in its bright pink umbrellas in spring. Growing it from seeds is a rather delicate task, but cuttings of new rosettes, taken with two inches or so of stem, root easily in a sand bed.

I could, if space were available (and I may later in the year), devote considerable time to pink varieties of *arabis*. Of the many which have been tested here, I think I am safe in saying that *Arabis albida rosea*, the one with rose-pink flowers and not any of its numerous washed-out seedlings which are sold under that label, is the best for general distribution. It has, in addition to the iron-clad hardiness and amiable disposition of type *albida* (generally known as *alpina* in nurseries), a pretty shade of rose-pink. The color fades with age in bright sun, to be sure, but if that is objectionable, the plant does

well in part shade and then carries its deep color to the end. Grow it from cuttings of growths made after the flowering period, taken with a heel and rooted in the ordinary way.

Armeria, or *limonium*, according to one's botanical leanings, holds much for the rock gardener with small space and a special liking for pink flowers. As species names used in the trade mean little (a conclusion which you can corroborate by comparing names and descriptions in lists with those published from Dr. Bailey's test garden at Cornell), we shall save space by omitting any discussion of that part of the subject. There are two plants, however, which should have special mention in this connection. One is a plant which seems to be quite widely distributed in the trade as *A. alpina*. Just a little larger in rosette, a little longer in leaf and two or three times taller in flower stems than the little charmer, *A. caespitosa*, it has a much longer blooming season and greater ease of propagation to recommend it. As I have had it from several nurseries and as it grows in this light soil, it blooms profusely at the usual time in spring, and then several times during the summer it covers itself with its pale pink heads. Everyone that has seen or grown true *A. caespitosa*, the one with tiny, dark green, spiny tufts and large, deep pink heads, sitting quite stemless on that spiny cushion, will agree with Mrs. Wilder when she called it "an undoubted treasure." Both require a well drained spot in sunshine. *Alpina* is easily reproduced by pulling the tufts apart and rooting the pieces in a propagating bench or frame; *caespitosa* should, according to the books, act in the same way, but in practice it is not so tractable. Slow multiplication may be had from division, and with care some of the cuttings will root. A better way, according to my experience, is to start with the true plant and grow from seeds saved from isolated specimens. It may be necessary to wait for seedlings to bloom to determine their trueness. Be sure seeds are fully mature before harvesting them, for unripe seeds are quite worthless.

Even though *Asperula cynanchica* may get a foot across, it has so many virtues that it demands the attention of every rock gardener, es-

pecially those who want choice plants which require little care. As to the latter, all it asks is a spot in sun-shine, though it appears to do best in a hot dry situation, where it sends forth sprawling wiry stems, clothed in sparse foliage, but covered with pink to white tubes throughout the summer. That is the color range, at least, as the plant grows from the usual lot of seeds; so one must make selections from seedlings to be sure of the color wanted. At least five other asperulas that I have grown could qualify for our present purpose, some even better than the one mentioned, but as they are not now readily available, we shall have to wait for happier times to add them to our collections.

A few years ago, it would have been difficult to find an aubrieta to qualify for the present role, the so-called pinks those days running too much to red and magenta for our purpose. Now, however, there are several real pinks, including Gloriosa, Lissadell Pink, Pink Parachute and rosea splendens, from which to choose. I have said so much about named aubrietas in this column during recent years that space need not be taken now to go over the matter, except to say a few words about culture and propagation. Unfortunately for the plants and for gardeners, those on heavy soil cannot set an aubrieta down anywhere, as we can on our light sand, and expect it to grow on into a wide mat of gray. Where the soil is heavy, it is necessary to give the plants a high spot in a wall or rockery so it can hang its silvered foliage over a rock; otherwise the first long damp period means a rotted aubrieta. Given perfect drainage, there is, however, no easier rock garden plant. Propagation of named varieties is from cuttings of new growths, which are generally abundantly produced if the plants are sheared back a little immediately after the flowering period.

In the notes made preparatory to writing this series, I find one to "include spring beauty, Claytonia virginica, if there is room." Since getting into the subject, I find there is not room to say much about it, but I still think it should be brought to the attention of growers in localities where gardeners cannot get to the woods to collect their own plants. In these places the neighborhood grower could undoubtedly add to his income and to the beauty of his customers' gardens by making this plant available.

Although pinks are next on the list, little need be said about them,

as they are too well known to need extended comment, except to point out the fact that, as our subject is restricted by the term "small rock garden," care must be taken to select small-growing kinds for the purpose. My choice of kinds would include the following: Rose Cushion, with bright rose flowers on 2-inch stems over gray cushions, one of the most generally useful of small pinks; roysi hybrids, 6-inch stems crowned with large flowers in shades of pink; Dianthus Tiny Rubies, little pink carnations on 2-inch stems. The first and last should be grown from cuttings, an easy task in early spring or midsummer, but roysi may be grown from seeds.

The size of *Dicentra eximia* and *D. formosa* would exclude almost any other plant from our list, but they have so many virtues, including a summer-long blooming period and perfect disregard for neglect, that they force themselves upon our attention. And we are glad that they



Campanula Bluette.

do, for they give us a long period of color for the shaded and partly shaded corners of our gardens. Both are plants of great charm, instantly attracting the gardener's attention by their ferny foliage and pretty rose-colored bleeding hearts. Propagation is from seeds, which should be planted outdoors in autumn or, if in winter, in flats to be put out to freeze, and also by root cuttings or division.

Before I broke up the collection of shooting stars to make room for other trials, the shady spot under the wide-spreading branches of a Mazzard cherry tree which they inhabited was one of the most attractive in the garden. It has often made me wonder, as I have gone through neighborhood nurseries without seeing anything of the kind, except rarely a few representatives of our eastern species, *Dodecatheon meadia*, why more growers did not handle the western kinds. They are

easily grown in part shade in a humus-filled soil; they are so distinctive as to flower that they attract instant attention, one's love for the plant growing with acquaintance, and they are quite easily propagated from seeds, which are generally freely produced on cultivated specimens. For our present purpose, I can heartily recommend the following kinds, all available from western growers: *D. colrigi*, bright pink flowers on 6-inch stems; *D. multiflorum*, bright rose flowers on foot-tall stems; *D. viscidum*, pink and white flowers on 8-inch stems. Names of western shooting stars are too confused to be sure of a label; the foregoing are the ones in use by collectors and growers.

Perhaps because they cannot always stand the neglect to which they are subjected by the start-and-stop gardener, especially neglect as to watering in long droughts, epimedums should not be included. But they are so graceful, unusual and lovely that they deserve a few words. Nor are they too difficult of culture to cause the earnest gardener any concern. Give them a peaty soil in part shade and then water them down thoroughly before they commence to show signs of distress when the weather turns dry, and they will respond with tufts of handsome, shining, sometimes evergreen leaves, often with lovely bronzy shades. The flowers, although fleeting individually, are generally produced over a period of two weeks to a month in late spring, the clusters or spikes made up of small stars making a pretty accompaniment to the charming foliage. The kind of most value to our present inquiry, so far as I know them, is the lovely garden form known as Rose Queen, with clouds of rose-colored flowers on foot-high plants. Propagation is by division.

[To be concluded.]

CAMPANULA BLUETTE.

The originators of Campanula Blue Gardenia, an outstanding perennial plant introduction of 1939, have produced another perennial campanula which has been named Bluette.

This is identical with its still popular sister, Blue Gardenia, in all habits but color, that being a dainty blue streaked or suffused with white. The blooms are of gardenia-like form, arranged on long erect spikes, and are long-lasting cut flowers.

Campanula Bluette is hardy, surviving the winters well. It thrives well in any good garden soil and normally attains a height of thirty inches in its second year.

The R. M. Kellogg Co., Three

Rivers, Mich., large midwestern plant mail-order house, is codissemittor with the originator, Corliss Bros., Inc., Gloucester and Ipswich, Mass.

NORTH JERSEY NEWS.

Members of the North Jersey Metropolitan Nurserymen's Association entertained its retiring secretary, Maarten Snel, Jr., December 7. After a surfeit of eats and drinks, they viewed moving pictures of the China-Burma front taken by "Al" Anderson, who has been assisting in the production and maintenance of the Chinese air force. He is now with the group formerly known as the Flying Tigers. "Dad" Charles operated the machine. Mr. Snel is entering the army. He is our second secretary to go into the service for Uncle Sam. But our loss is our country's gain, for we expect Maarten to bring home a Jap or a Nazi balled and burlapped in the best Dutch fashion.

The N.J.M.N.A. members, like all other nurserymen of the country, have been hit hard by the war. But we cling to the important things like education. Rubber and gasoline economy prevented having the nursery school at Rutgers University, New Brunswick, N. J., as formerly. So "the mountain came to Mohammed" and we had our first class, well attended for such a snowy slippery day, at the Paterson courthouse, Paterson, N. J., December 9. It was an all-day session with Prof. L. C. Chadwick, of Ohio State University. The morning period was taken up with fertilizer regulations and fertilizer substitutes. Soybean meal alone or with the addition of small amounts of nitrogen, phosphorus and potash stood in the first place for trees, shrubs and lawn. In the afternoon there was a lively session on what shrubs and evergreens to propagate or discard, but no decision. Fertilizer and manures held the attention of our class under the able direction of R. B. Farnham, of Rutgers. About twenty were present.

Our next class will be held Friday, January 8, same place, same time. Arrangements for the speaker have not yet been completed.

William L. Flavelle was appointed secretary of the North Jersey Metropolitan Nurserymen's Association to fill the post left vacant by Mr. Snel's departure.

W. L. F.

KENDRICK K. WILLIAMSON, Memphis, Tenn., died November 19. He was the owner of the Memphis Shade Tree Co.

NEW CATALOGUE PLAN FOR 1943 RETAILING

Built to fit 1943 needs!

**Provides the ideal way to build LOCAL and MAIL-ORDER SALES this spring!
New, different, and surprisingly low in cost!**

For the first time in many years, a fundamentally new type of cataloguing and advertising service has appeared in the nursery field. This new service is built for the *local retailer* first of all. It is planned to meet 1943's unusual conditions . . . to build profitable sales *this year*. It provides a way to counteract the anticipated decline in drive-in business . . . encourages mail and phone orders . . . protects your local trade against the far-distant mail-order operators.

Nothing like it has ever before been offered.

Beautiful catalogues, in color at a record low cost

This new plan lets you have *your own catalogue*, with dozens of natural color illustrations, at a cost you never thought possible. It gives you advertising as good as the best, prepared by a competent, nationally recognized organization. Costs generally run in the vicinity of 4c to 7c per name.

NOT a stock catalogue

Low cost of the new plan is made possible by *group production* of color printing, so that you get the advantages of large scale output. But your book will not be a "stock catalogue." *The plan permits COMPLETE FLEXIBILITY in choice of items listed, pricing, etc.*

Well known in the trade

Originated by H. B. LAW, PUBLISHER, this plan comes from an organization known throughout the horticultural trade. In the field of *seed retailing* its catalogue service is more widely used than any other.

For ONE nursery in each center

Only one nursery in each trade center can have this service. It is sold on a basis of completely exclusive territorial rights.

To get all the facts, mail the coupon below, or write on your own letterhead. Time is short, so immediate action is necessary!

For complete information, mail the coupon to

H. B. LAW, Publisher, 737 N. Michigan Ave., Chicago

To H. B. LAW, PUBLISHER, 737 N. Michigan Ave., Chicago, Ill.
Please send me full facts, prices, etc., on your 1943 Spring Plans
for Nurserymen.

Firm Name _____

Approx. No. of Names
on Mailing List _____

By _____

Address _____

What's New in War Control Orders

ODT FIELDMEN AIDING MILEAGE ADJUSTMENTS.

To make it as easy as possible for commercial motor vehicle operators to seek adjustments in their mileage and fuel allotments, the Office of Defense Transportation is sending its fieldmen into approximately 500 cities and towns in which field offices are not already established.

The ODT representatives will make their headquarters in local chambers of commerce and will be available during the next few weeks to discuss mileage and fuel requirements with operators and to make necessary adjustments in certificate of war necessity allotments which have proved inadequate.

ODT officials emphasized that requests for adjustments in CWN allotments should be made promptly, since the period during which temporary transport rations may be issued by the local war price and rationing boards ends January 31. After this date fuel rations will be made only in accordance with allotments provided on the certificates of war necessity.

The ODT is deploying its field force, it was pointed out, for the convenience of operators who wish personal interviews, but who do not live near any of the 142 regular ODT district offices. Instructions to applicants are given by the ODT.

First, estimate as carefully as you can what your additional requirements will be, and don't ask for more mileage and fuel than you actually need to carry on your essential operations efficiently.

After you have estimated your additional requirements, proceed at once to request a change in your certificate. If you wait too long to make this request, it may be impossible to correct your certificate before the end of the period in which temporary transport rations may be issued. This period ends January 31, but all requests for corrected certificates should be in the hands of the ODT long before this.

Get in touch with your chamber of commerce or watch for local announcements as to when these men will be in your community or a near-by one. Avoid filing requests for corrected certificates by mail if you can. Much quicker and more satisfactory results can be obtained by

talking your problems over with your ODT representative in person.

When you call on an ODT field representative to make a request for an adjustment of your allotment, take your original certificate with you and be prepared to submit a description of your vehicle operations for the preceding thirty days. The description should include figures on mileage traveled and fuel consumed.

If it is not convenient for you to visit an ODT field representative, write your ODT district office for instructions on how to make your request for an adjustment in your original certificate.

If you are a farmer, it is recommended that you apply for a corrected certificate through your county farm transportation committee, but you may, if you wish, apply directly to the nearest ODT field representative.

The county farm transportation committees not only will handle your request for a corrected certificate, if you are a farmer, but will give you helpful suggestions on how to save mileage. It is expected that the committees will continue to function for the duration.

Recommendations made by the committees for corrections in certificate allotments will be accepted by the ODT district offices in all cases, unless errors are detected in the committees' calculations. These questions will be taken up at once with the committees.

SUGGESTED LIST PRICES.

A number of instances have come to the attention of the Office of Price Administration recently in which certain manufacturers and wholesalers have given dealers "suggested list prices" for various commodities—without warning the retailers of their responsibility for observing their own individual ceiling prices.

Retailers may adopt the selling prices suggested by the manufacturers or wholesalers only if they do not exceed their own ceiling prices established in accordance with the regulation governing the pricing of those particular commodities.

Dealers who rely on the statements of their supplier and use a selling price in excess of their proper ceiling price will be guilty of a violation. In such a case, the

wholesaler or manufacturer will also be regarded as a violator on the ground that he has induced the violation by the retailer and is a participant in it.

Consequently, suppliers will want to protect themselves. They will also desire to caution their customers. To do this it is suggested that they use a notice substantially as follows:

"Any retail price suggested by a supplier can be charged by the retail seller only in the event it does not exceed the ceiling price established by that individual seller for the item in question."

TRUCK TIRE INSPECTION.

Truck owners must present their vehicles for tire inspection before January 15.

A commercial motor vehicle may not lawfully be operated after January 15 without an endorsement by an approved tire inspector on the vehicle's certificate of war necessity. After that date, commercial motor vehicles must be presented for tire inspection at 60-day or 5,000-mile intervals, whichever occurs first.

If an inspector finds that a tire needs repairing to insure maximum service, he will withhold endorsement of the certificate of war necessity or record form covering operations of the vehicle on which the tire is mounted until the repairing has been done.

If an inspector finds any mechanical condition causing undue tire wear, he likewise will recommend the necessary repairs and will not sign the operator's certificate or record form until they have been made.

All inspections will be made by persons designated for the purpose by the Office of Price Administration's war price and rationing boards.

Contrary to instructions previously issued in the booklet furnished with the application blanks for certificates of war necessity, tire inspectors may charge for their inspection services, but the maximum price which they can charge has been set by OPA price regulation 165, as amended. This regulation sets the ceilings on service charges generally at the March, 1942, level.

It is expected that in many cases the examinations will be made without charge, particularly where the inspector is a service station operator,

BALL BETTER

PLANT BANDS

The increasing demand for these Ball Better Plant Bands is clear evidence of their practical usefulness to every florist and nurseryman. You will find them ideal for planting up roses, evergreens and other stock ready for lining out. For carrying your hardy perennials over into fall or spring, you will find them valuable.



Plant your perennials, roses and small shrubs, like the buddleia pictured here, in various sizes of Ball Better Plant Bands, and sell them as growing stock ready to be set in the garden and provide early bloom. Plants in Ball Better Bands can be handled easily and successfully by inexperienced sales help, such as must be used now to a large degree, and you can get better prices for these thrifty plants because of the satisfaction they insure to your customers.

FOR RETAIL SALES

With the whole country now under gasoline rationing, you will need to take your stock to the customers, either through your own garden shop or through established retail outlets in traffic centers or shopping districts. Your plants must be convenient to handle and easy to carry—and at the same time of strong vitality to insure success in customers' gardens.



SEND FOR FOLDER

Just how these Bands can help you is fully described. Glad to send you samples of any size band you want. Write.



Be sure to write us for samples of sizes suitable for your work.

garage man or tire dealer who ordinarily does business with the vehicle owner.

OPA officials said that many commercial fleet operators probably have service and maintenance employees who could qualify as tire inspectors. Employees selected by employers could seek official appointment by the local war price and rationing board. If appointed, the employees then could make the necessary inspections of vehicles in the fleet.

Applications for the position of tire inspector should be made by letter—no official form has been set up—to the applicant's local war price and rationing board. Any responsible citizen with tire maintenance experience may apply, the OPA has announced.

The ceiling set by maximum price regulation 165 applies when the inspection does not require removal of any of the tires. The top fee an inspector may charge in such cases is the highest charge he made for the same or a similar service in March of this year. Where it is necessary to demount a casing in the course of inspection, the charge for this additional service is limited by a schedule of prices contained in OPA's tire rationing regulations: For demounting and remounting passenger-type tires (even though mounted on a commercial ve-

BUXUS SEMP. WELLERI

(Weller's Hardy Northern Type)

Only Boxwood proven hardy in Northern States for Twenty Years.

Without Ball	Per 10 Per 100
6 to 8 ins. for hedging	\$2.50 \$20.00
8 to 10 ins. for hedging	3.00 25.00
10 to 12 ins. for window boxes.....	4.00 35.00
Lining-out grade, 1-yr., strong-rooted, 3 to 6 ins., \$7.50 per 100; \$60.00 per 1000	
6 to 8 ins., \$10.00 per 100; \$85.00 per 1000	

WELLER NURSERIES CO., Inc.

Holland, Mich.

Ask for our Perennial Catalogue.

hicle), 50 cents each; for truck tires, 7.50x20 or smaller, 75 cents each; truck tires larger than 7.50x20, \$1 each; additional charge for inside dual truck tire of this larger size, 50 cents.

Without removing tires, the inspector will check for (1) correct air pressure in tires, (2) bent rims and out-of-true wheels, (3) cuts or breaks in treads or sidewalls, (4) evidences of wear from badly aligned wheels, faulty brakes, unbalanced wheels, camber malalignment and excessive

MOUNT ARBOR NURSERIES

E. S. Welch, Pres. - Est. 1875 - Shenandoah, Iowa

----- Wholesale Only -----

"One of America's Foremost Nurseries"

FRUIT TREE SEEDLINGS

Washington-grown

APPLE—MAHALEB—MAZZARD

PLUM—Americana and Myrobalan

California-Grown ROSES

LARGE ASSORTMENT IN BEST VARIETIES

Winter and Spring 1943 only

Large growers of FRUIT TREES,
SMALL FRUITS, ORNAMENTAL
TREES, SHRUBS, EVERGREENS,
VINES and PERENNIALS.

Send want list for prices.

Ask for complete TRADE LIST.

SPECIALS

Cutleaf Weeping Birch

Betula alba laciniata	
6 to 8 ft	\$0.75
8 to 10 ft	1.25
1½ to 1¾ ins.....	1.75
1½ to 2 ins.....	2.50
1¾ to 2 ins.....	3.00

Write for our complete list of
Overstocked Items.

STORRS & HARRISON NURSERIES

Painesville, Ohio

wear of kingpins, bushings and wheel bearings.

He will also ask the driver whether any tire has been injured inside and not repaired. When the driver's answer is affirmative, the tire will be demounted for thorough examination.

Inspectors may be called upon not only for the required periodic examinations, but also to fill out the OPA application form when a vehicle owner applies to his local war price and rationing board for a recapping service or replacement tire. Since in all but a few cases the tire rationing regulations provide for replacement tires only when the casing on the vehicle is not recappable, inspectors are given instructions to guide them in deciding when to recommend recapping and when replacement.

The most economical point for recapping either a passenger car or truck tire, according to the instructions, is when the casing is worn smooth approximately three-fourths of the total width of the tread and not beyond the point where there still remains an eighth of an inch of tread rubber above the "breaker strips" or outside ply of cord. The ultimate point of wear for a passenger car tire, if it is to be recapped, is through one body ply of cord fabric, while for truck tires, which are of heavier construction, it is through two plies.

A damaged tire is recappable when it does not require more than two sectional repairs of breaks or cuts in the cord. When the lesions are more than three inches long, however, or are below the point where the sidewall of the tire contacts the top of the rim flange, the casing cannot be recapped satisfactorily. Besides wear beyond the ultimate points designated, and cuts and breaks more extensive than those described as repairable, there are four other kinds of damage that make tires unfit for recapping: (1) Ply separation; (2) broken or exposed bead wires; (3) failure at the bead reenforcement; (4) separation of cord in inside ply.

WHITE-FRINGED BEETLE.

At a meeting of local nurserymen called last month at New Orleans, La., in regard to white-fringed beetle legislation about to be enforced, W. E. Anderson, state entomologist, and L. J. Pargett, representing the United States Department of Agriculture, explained details that are expected to be worked out to the satisfaction of local nurserymen. The latter are to be divided into two classes, grower-dealers and dealers, the former being permitted to handle both certified and uncertified

stock, while the latter will be permitted to handle only certified stock, grown in beetle-free nurseries or fumigated by the Department of Agriculture and permitted to move with proper certificates. Mr. Anderson also called the attention of local nurserymen to the fact that galvanized iron for the erection of beetle barriers is available free upon application, the material to be returned upon demand of the Department of Agriculture.

REVISE QUARANTINE LIST OF BARBERRIES.

Under the third revision of circular B. E. P. Q. 385, effective December 15, 1942, two species of barberries, *Berberis aemulans* and *B. dictyophylla* var. *albicaulis*, have been removed from the list of species which may be shipped into or between the protected states under quarantine 38, inasmuch as recent tests have shown that both *aemulans* and *dictyophylla* are susceptible to the black stem rust. *B. bealei* (*mahonia*) has been added to the permitted list. The range of this species for satisfactory cultivation, however, is practically limited to the area south of the protected states.

Other modifications in the circular issued by the federal bureau of entomology and plant quarantine are concerned only with improved nomenclature, *B. thunbergi pluriflora* having been eliminated from paragraph (a) for the reason that it is not in reality a different variety of Japanese barberry; *B. thunbergi pluriflora erecta* has been changed to *B. thunbergi* f. *erecta*, and *B. diversifolia* has been eliminated from paragraph (b) because it is a synonym for *Mahonia aquifolium*.

The rules and regulations supplemental to quarantine 38 provide that no plants, cuttings, stocks, scions, buds, fruits, seeds, or other plant parts capable of propagation, of the genera *berberis*, *mahonia* or *mahoberberis*, "shall be moved or allowed to be moved interstate from any state of the continental United States or from the District of Columbia into any of the protected states, namely,

Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, Virginia, West Virginia, Wisconsin and Wyoming, nor from any one of said protected states into any other protected state, unless a permit shall have been issued therefor by the United States Department of Agriculture, except that no restrictions are placed by these regulations on the interstate movement either of Japanese barberry, *Berberis thunbergi*, or any of its rust-resistant varieties, or of cuttings (without roots) of *mahonia* shipped for decorative purposes and not for propagation."

Barberry and *mahonia* plants other than those listed below may not be shipped interstate into any of the protected states.

Barberries which may be shipped interstate to any state without permit or restriction are:

- Berberis thunbergi*.
- Berberis thunbergi* var. *atropurpurea*.
- Berberis thunbergi* var. *maximowiczi*.
- Berberis thunbergi* var. *minor*.
- Berberis thunbergi* f. *erecta*.

Barberries which may be shipped into or between protected states under federal permit are:

- Berberis aquifolium* (*mahonia*).
- Berberis bealei* (*mahonia*).
- Berberis buaniana*.
- Berberis buxifolia*.
- Berberis candidula*.
- Berberis chenaultii* (*hybrid*).
- Berberis circumserrata*.
- Berberis concinna*.
- Berberis darwini*.
- Berberis edgeworthiana*.
- Berberis gagnepaini*.
- Berberis gilgiana*.
- Berberis julianae*.
- Berberis koreana*.
- Berberis mentorensis*.
- Berberis nervosa* (*mahonia*).
- Berberis potanini*.
- Berberis repens* (*mahonia*).
- Berberis sanguinea*.
- Berberis sargentiana*.
- Berberis stenophylla* (*hybrid*).
- Berberis triacanthophora*.
- Berberis verruculosa*.

THE energetic new secretary of the Portland Nursery Club, Clayton B. Lewis, last month issued the first number of "Port Nu Clu," a sheet of mimeographed notes on a variety of topics addressed to members.

I want to wish the entire "Old Gang"

**A HAPPY, HEALTHY,
PROSPEROUS YEAR,**

- 1943 -

ARTHUR DUMMETT,

MT. VERNON, N. Y.

WE OFFER — For 1943 Delivery

EVERGREENS

Assorted, with a large stock of Pyramidal Arborvitae and Pfitzer Juniper, in grades.

SHRUBBERY SHADE TREES BARBERRY

3-yr. transplanted Red and Green

APPLE, PEACH, CHERRY, and PEAR TREES IN ASSORTMENT.

CALIFORNIA PRIVET

1 and 2-yr. in grades.

3-yr. ASPARAGUS PLANTS, etc.

Write for trade list.

THE WESTMINSTER NURSERIES

Westminster, Maryland



Who offers the nursery trade of this country the greatest line of rare trees and shrubs?

Write for list 4243 and find out!

But use your business stationery, as post cards will be ignored.

W. B. CLARKE & CO.

San Jose, California

100,000 YEW SEEDLINGS

THESE are the last upright Yew seedlings you'll see for many a year. 95% true upright collected in pure forest stands in Japan. The most useful of all Yews—hedges or specimens.

NOW 3 to 5 inches, beginning to branch (see photo), heavier than ordinary.

\$4.00 (100), \$30.00 (1000).
[Case of 3000 for \$82.50]



KELSEY NURSERY SERVICE
50 Church St. New York, N. Y.

We offer for Spring 1943
a fairly complete line of Evergreens, Hedge Plants, Assorted Shrubs, Shade, Ornamental and Reforestation Trees, Vines and Creepers in both finished and lining-out stock; also a good assortment of Hardwood Cuttings at very attractive prices. Trade List will be mailed in early February. Send your Want List for special quotation or visit us and look over our stock.

FOREST NURSERY COMPANY, INC.

J. R. Boyd, Pres.

McMinnville, Tennessee

Fine Unusual
Hardy Perennial and Rock Plants
SPECIAL NOVELTY LIST

Ready Now. Send for it.

CARROLL GARDENS Westminster, Md.

GRANITE STATE NOTES.

The season of 1942 was a favorable one for all growing things in New Hampshire. The fall of 1941 brought a severe drought, which left most nursery stock in a weakened condition. However, a favorable snow cover during the winter prevented winterkill, and there was just enough rain in the early spring to start everything off in good shape. As a result, growers found their stock exceptionally good for late spring business and much better than usual for the fall trade.

Most of the nurserymen in the state cater to local demand and, with the dropping off in traffic, this business reached a new low. Landscaping business also showed a decrease, because of the curtailment in house building. Only three areas in New Hampshire got in on the war housing, Portsmouth, Manchester and Claremont, and there were no big landscaping projects like the government housing at Portsmouth last year.

Announcement is made that the government housing project of 600 units at Kittery, Me., just over the line from Portsmouth, known as Admiralty Village, will be regraded and landscaped at a cost of \$185,000 during the spring of 1943. This is being done because of moisture conditions and will doubtless require much nursery stock.

The L. E. Williams Nursery, Exeter, was busy all the fall collecting and shipping camouflaging material, including some 50,000 bittersweet vines. The Charles H. Williams Nursery, Exeter, and the Still Nursery, Manchester, assisted.

Leander H. Williams, brother of Lester E. Williams, Exeter, died at his home, at Manchester, December 15, age 71. He had been identified with the L. E. Williams Nursery and later with the Still Nursery, Manchester. The Williams family were pioneers in the collection and propagation of native plants and flowers. Lester E. Williams was the founder. Two of his sons are now engaged in the business, Charles H. Williams and Isaac Langley Williams, both having independent nurseries at Exeter.

The Monadnock Nursery, Keene, lost most of the help in the draft, and its landscaping work was much curtailed during the past six months. Little lining out was done the past fall because of the impossibility of obtaining suitable labor.

Greenlands, Inc., Concord, of which Carl Sargent, former park commissioner of that city, is presi-

SEEDS

Prices f. o. b. New York.

	14 lb.	1 lb.
<i>Abies balsamea</i>	\$1.00	\$ 3.50
<i>Acer baileyana</i>	.90	2.50
<i>Arachnotheroxylon</i>	.25	4.50
<i>Acer palmatum</i>	1.90	4.25
<i>Acer ginnala</i>	.70	2.50
<i>Acer negundo</i>	.50	1.75
<i>Acer spicatum</i>	.90	2.50
<i>Albizia lopechiana</i>	.90	2.25
<i>Amelanchier alnifolia, d.b.</i>	.40	1.45
<i>Amelanchier stolonifera, d.b.</i>	.90	3.25
<i>Arbutus unedo, c.s., per oz., 50c</i>		
<i>Arctostaphylos glauca, d.b.</i>	.50	1.80
<i>Berberis thunbergii, d.b.</i>	.25	.70
<i>Betula papyrifera, c.s.</i>	.65	2.25
<i>Betula pendula (alba), c.s.</i>	.70	2.50
<i>Calycanthus floridus, c.s.</i>	.50	1.75
<i>Caragana pygmaea, c.s., per oz., \$1.50</i>		
<i>Casuarina cunninghamiana, per oz., 85c</i>		
<i>Celastrus scandens, c.s.</i>		2.75
<i>Celtis occidentalis, d.b.</i>	.25	.90
<i>Ceratonia siliqua, c.s.</i>	.65	2.25
<i>Chamaemelum lagenarium rubra, c.s.</i>	1.40	5.00
<i>Chamaecyparis lawsoniana</i>	1.00	3.50
<i>Chamaerops humilis</i>	.65	2.25
<i>Chionanthus virginicus, c.s.</i>	.50	1.65
<i>Cladrastis lutea, c.s.</i>	.65	2.25
<i>Cornus alba sibirica, c.s.</i>	.65	2.25
<i>Cornus alternifolia, d.b.</i>	.65	2.10
<i>Cornus florida subra, d.b.</i>	.25	.85
<i>Cornus mas, c.s.</i>	.70	2.50
<i>Cornus rugosa, c.s.</i>	.60	2.10
<i>Cornus stolonifera flaviramea</i>	.65	2.25
<i>Cunninghamia lanceolata</i>	.90	3.25
<i>Cupressus arizonica</i>	1.00	3.50
<i>Cupressus goveniana</i>	1.25	4.50
<i>Cytisus scoparius</i>	.85	3.00
<i>Eriobotrya japonica, c.s.</i>	.45	1.50
<i>Eucalyptus globulus</i>	2.05	11.00
<i>Eucalyptus multiflora (robusta)</i>	1.55	5.50
<i>Eucalyptus viminalis</i>	.50	9.00
<i>Euonymus yedoensis, d.b.</i>	1.00	3.50
<i>Gardenia thunbergia, 100 seeds, \$2.50</i>		
<i>Gaultheria shallon, d.b., per oz., \$1.25</i>		
<i>Holodiscus discolor</i>	1.65	6.00
<i>Jacaranda acutifolia (ovalifolia) 1000 seeds, \$1.50</i>		
<i>Juniperus communis, c.s., per oz., 45c</i>	1.00	6.00
<i>Juniperus communis depressa, c.s., per oz., 50c</i>	1.75
<i>Juniperus pachyphloea, c.s., per oz., 50c</i>	1.75
<i>Liriodendron tulipifera</i>	.25	.85
<i>Lonicera morrowi, yellow, c.s.</i>	1.40	5.00
<i>Lonicera tatarica, c.s.</i>	1.25	4.50
<i>Magnolia denudata, c.s.</i>	1.55	5.50
<i>Magnolia soulangiana (lennel), c.s.</i>	1.00	3.50
<i>Magnolia virginiana (glauca), c.s.</i>	.65	2.25
<i>Mahonia nervosa, d.b.</i>	1.25	4.50
<i>Morus rubra</i>	.90	3.25
<i>Myrica cerifera, d.b.</i>	.70	2.45
<i>Osmaronia cerasiformis</i>	1.85	6.50
<i>Ostrya virginiana, d.b.</i>	.80	2.75
<i>Phoenix dactylifera</i>	.55	1.85
<i>Picea abies (Norway Spruce)</i>	2.20	8.00
<i>Picea glauca (White Spruce)</i>	1.40	5.00
<i>Picea glauca densata (Black Hills White Spruce)</i>	2.35	8.50
<i>Picea pungens (Colo.)</i>	1.75	6.25
<i>Picea pungens glauca</i>	2.75	10.00
<i>Pinus attenuata</i>	1.65	6.00
<i>Pinus banksiana</i>	1.20	4.25
<i>Pinus echinata</i>	2.50	9.00
<i>Pinus mugo mughus</i>	2.65	9.50
<i>Pinus ponderosa</i>	.85	3.00
<i>Pinus resinosa</i>	2.20	8.00
<i>Pinus rigida</i>	.85	2.25
<i>Pinus strobus</i>	.65	2.25
<i>Pinus sylvestris</i>	2.50	9.00
<i>Prunus cerasifera (Myrobalan), c.s.</i>	.35	1.10
<i>Prunus Hansen Bush Cherry, c.s.</i>	.70	2.50
<i>Prunus mahaleb, c.s.</i>	.40	1.30
<i>Prunus serotina, c.s.</i>	.40	1.40
<i>Prunus virginiana, c.s.</i>	.50	1.75
<i>Rubus lobeli, c.s., per oz., \$1.50</i>		
<i>Robinia pseudoacacia, c.s.</i>	.25	.75
<i>Sambucus canadensis, c.s.</i>	.55	1.90
<i>Sambucus racemosa, d.b.</i>	.65	2.25
<i>Schinus molle</i>	.90	3.10
<i>Schinus terebinthifolia</i>	1.45	5.25
<i>Sequoia gigantea</i>	2.75	10.00
<i>Shepherdia canadensis, d.b.</i>	1.25
<i>Spiraea douglasii, c.s., per oz., \$5.25</i>		
<i>Styrax villosa</i>	2.00
<i>Thuya orientalis aurea conspicua</i>	1.00	3.60
<i>Thuya orientalis aurea nana</i>	1.05	3.75
<i>Tsuga canadensis</i>	1.90	6.75
<i>Tsuga caroliniana</i>	1.95	7.00
<i>Ulex europeus</i>	1.10	4.00
<i>Vaccinium angustifolium (pensylvanicum), d.b.</i>	.90	3.25
<i>Viburnum alnifolium, c.s., per oz., 50c</i>		
<i>Viburnum cassiopeoides, c.s., per oz., 50c</i>		
<i>Viburnum lantana, c.s., per oz., 50c</i>		
<i>Viburnum mollis, c.s., per oz., 50c</i>		

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dent, is specializing in fertilizers for special purposes.

The Guthrie Greenhouses, Manchester, formerly one of the largest ranges in the state, is permanently closed and reported for sale. The buildings were run only partially last winter.

The Pembroke Nursery, specializing in herbs, advertised considerably last spring and issued an attractive catalogue. Labor conditions, however, caused abandonment of the project, which was planned at the Ladd farm in Pembroke, where the state had an experimental farm several years ago.

The Granite State Herb Gardens, Canterbury, grew sage the past year and made a business of selling it commercially to Concord housewives for the Thanksgiving turkeys.

The Gem Evergreen Co., Wellington road, Manchester, is a new firm, specializing in evergreen propagation and landscaping.

The Dow Nursery, North Epping, one of the oldest nurseries in the state, has been obliged to curtail operations because of the induction of the proprietors into the army. This company passed out of the Dow family several years ago.

True W. Chesley, of Turnpike Flower Gardens, Charles H. Chesley & Son, Northwood, is now employed with the army engineers, as engineer in charge of certain roads and installations in the Portsmouth district. The firm, with its business curtailed because of travel conditions, devoted most activities to the growing of herbs.

Prof. J. R. Hepler, of the New Hampshire experiment station, Durham, a well known authority on herb culture, is running a series of articles in the leading state newspaper on the possibilities of growing herbs in the state as a commercial proposition. H. H. C.

COMMISSIONED in the reserves in 1940, Lieut. (j.g.) Oliver W. Fraser, Jr., reported for active duty in 1941, as chief disbursing officer of the battleship Arkansas, was promoted to chief supply officer in 1942 and is now acting as such on the U.S.S. Arkansas in Atlantic waters.

THE job of landscaping the federal housing project's homes for defense workers, Port Angeles, Wash., in the district known as Peabody Heights, was awarded to the A. V. Wallis Nursery, Sequim, Wash. Included in this piece of work will be the planting of 70,000 square feet of grass, about 300 evergreen shrubs and approximately 100 deciduous ornamental trees.

This Business of Ours

Reflections on the Progress and Problems of Nurserymen

By Ernest Hemming

MORE ABOUT THE CHINESE CHESTNUT.

I was extremely interested in what H. F. Stoke had to say in his letter on the Chinese chestnut in the December 1 issue of the American Nurseryman.

Evidently Mr. Stoke has had a more varied experience than I, and it is only by the exchange of such experiences we can arrive at a true value of the tree to this country. If I am not in error, the Chinese chestnut was introduced into this country by the United States Department of Agriculture with the object of testing it to see if it would not in a measure replace our American chestnut killed by the blight.

We, along with other nurserymen, received twenty-five plants about 1929. My experience is exclusively with these trees. In advocating the planting of seedling trees it seems that I am very much alone; not only Mr. Stoke takes me to task, but C. A. Reed, of the Department of Agriculture, through whom we got the trees, takes issue with me.

Personally, I should never dream of planting an orchard of seedling apple, peach, pear or any other fruit or nut that has been established in the country for any length of time, but here we have a new untried species. So far as I can learn, the particular strain of trees came from the University of Nanking, in China. Whether they are any better than others I do not know, but judging from results, they are so uniformly good that so far I cannot select one seedling superior enough to the rest to warrant asexual propagation, and

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DOUBLE WHITE
OR
SINGLE RED

4 to 5 ft., \$3.25; 5 to 6 ft., \$4.75;
6 to 8 ft., \$6.50

I. E. ILGENFRITZ SONS CO.
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this goes for all the seedlings raised from the parent trees.

The following is a record of the quantity of nuts borne by each tree, which speaks for itself as to the bearing qualities:

	1939	1940	1941	1942
1	31		Storm damage	30
2	18		9½	30
3	21		48¼	6
4	21		4	30
5	25		56	10
6	40		44	21½
7	16		23	47½
8	12		17	31½
9	23		34	40½
10	10		20¼	40
11	31		27	49
12	26		30½	59½
13	26		23	61
14	18		25	25½
15	43		54½	44
16	16		59	7¾
17	22		6	20
18	29		56¼	86
19	?		25	18½

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4-yr., 30 to 36 ins.....	\$2.00
4-yr., 24 to 30 ins.....	1.30
3-yr., 18 to 24 ins.....	.85
3-yr., 15 to 18 ins.....	.65
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We have lost our 1940 record and before 1939 the trees had not aroused our interest enough to warrant keeping one.

May I be allowed to generalize on the subject of seedling versus grafting trees? If we want to improve a strain of animals we necessarily do so by means of sexual propagation; the same is true of annual plants, such as zinnias, sweet peas, etc. There is no other way. But just because it is possible to propagate perennial plants and trees asexually, that doesn't mean it is the only way to propagate a type or strain. I am pretty well convinced myself that we cannot get something for nothing, and it may be the only thing we will get by grafting is uniformity at the cost of vigor.

Mr. Stoke mentions having trees die by blight. We ourselves have not lost a twig from that cause. The only loss has been a few inside branches from lack of light.

While seedlings do not uniformly begin to bear when 3 years old, neither do grafted trees, and it is my guess the seedlings would prove as early and as heavy bearers as the grafted trees. In this connection, there is a tendency among fruit and nut trees not to produce fruit when the trees are growing vigorously. This tendency seems to be reversed with the Chinese chestnut. The burs come on the end of the current year's wood, and the stronger the growth the more likely a heavy crop. We have never experienced a nipping frost after growth has started. It is an interesting point and may prove location has much to do with orcharding the Chinese chestnut.

One good point was made by Mr. Reed while discussing the reasons against planting seedlings, and that was their liability to be cross-pollinated by inferior kinds. Perhaps when the Chinese chestnut has been thoroughly tested in different parts of the country both methods of propagation may be permissible—grafting to increase any outstanding variety and growing seedlings from controlled pollination of a good strain. I have long come to the conclusion myself that no knowledge is final on any subject whatsoever.

E. H.

W. C. GRIFFING, of Griffing Nurseries, Beaumont, Tex., reports that his nephew, Pvt. W. D. Griffing, is at Camp Roberts, Cal., with Co. C, 86th Inf. Tng. Bn., A.T. His son, Lt. Ralph C. Griffing, is stationed at Mississippi State College, as instructor, as reported last month.

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<i>Picea pungens moerheimi</i>	3.50	32.50
<i>Pinus cembra</i>	3.00	27.50
<i>Quercus robur fastigiata</i>	4.00	37.50
<i>Thuja occidentalis douglasii</i>		
<i>spiralis</i>	2.50	22.50
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<i>occidentalis wareana (sibirica)</i>	2.50	22.50
<i>orientalis aurea nana</i>	2.25	20.00
<i>orientalis conspicua</i>	2.25	20.00
<i>orientalis elegantissima</i>	2.25	20.00
<i>Taxus media brownii</i>	3.00	27.50
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<i>Tsuga canadensis pendula</i>	3.00	27.50
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Letters from Readers

HABITAT OF CYRILLA.

I read with much interest the article concerning Cyrilla racemiflora in the December 1 issue. This is certainly an attractive shrub and deserves to be used much more extensively in our garden work. I cannot agree with Mr. Hohman in his remarks on its habitat, "following the Allegheny, Appalachian and Blue Ridge mountains, from the western part of Virginia as far south as Florida." Cyrilla is a coastal plain plant and is abundant in the swamps in southeastern Virginia and southward in the coastal plain. In the Dismal Swamp, which is in southeastern Virginia and northeastern North Carolina, it is an abundant shrub to small tree.

There is another plant, *Dirca palustris*, which goes by the common name of leatherwood. It is frequent in our mountains, but extends much farther north than Virginia.

Although the cyrilla is stated to be hardy in zone 5, I am rather dubious as to whether it would prove to be hardy in the mountains of Virginia. The first chance I have, when in the eastern part of the state, I shall try to transplant some of it to this region.

A. B. Massey,
Blacksburg, Va.

MARKET AFTER WAR.

The article, "Nursery vs. Landscape Work," by Ernest Hemming, in the November 1 issue is interesting and timely. To quote: "While the future is unknown, the signs do point to quite a different setup than in the past."

I am a retail nurseryman and landscape planter. I do not propagate. I buy my material at some stage and grow it for from one to ten years or more. Of course, I buy a considerable proportion of my material for immediate resale. It is necessary for me to have a large stock of ready-to-use specimen plants and large trees. Most of my business in the past has been with very wealthy people. The reaction against wealth (which I think has been too drastic), culminating in the war surtax, means the hamstringing of people of great wealth. At least one of my customers will pay sixty-five per cent of his income as income tax for 1942. This will mean a decided curtailment in this market for nursery stock. For the present there is ample money in the

hands of defense workers and the middle class to offset the loss of this market. It is phenomenal that no one wants to be cautious or wait until after the war to spend his money. I think there will be a sellers' market to at least the end of the war, which I think is not far off.

I agree with Mr. Hemming: "The big market of the future will be the planting of modest homes rather than the landscaping of large estates." I am wondering what "the different setup than in the past" may be in the nursery business. Will we all continue to try to occupy every market, or will the tendency be to specialize as wholesale grower, retail nurseryman, landscape planter? To quote Mr. Hemming once more: "As for the retail nurseryman, who is perhaps the biggest distributor of ornamental plants, he must in a measure give landscape service along with his goods; in fact, the trend of the times demands it."

As a matter of good business, I think the wholesale grower could well afford to encourage the retail nurseryman to meet the big market of the future—the planting of modest homes.

George Jennings,
New Jersey Foresters.

LOOK TOWARD FUTURE.

Dear Mr. Hemming:

It is an all too rare privilege to read an article like that of yours in the American Nurseryman under "This Business of Ours." To be able to write thus when one's own business is faced with a blackout shows

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the spirit that the world is most in need of today.

Wouldn't it be a wonderful thing if we could build a postwar economy on a cooperative basis, keeping the purpose of all business in mind—to satisfy man's material, spiritual and aesthetic needs?

Thank you for writing as you did.

Margaret A. Lester,
Netherby Farm Nursery.

CHINESE CHESTNUT.

While the Chinese chestnut was imported into this country more than forty years ago, interest in it has become widespread only in recent years, when its merit became apparent with the maturity of thousands of seedlings distributed in this country by the Department of Agriculture for experimental purposes. Of the species from foreign lands, *Castanea mollissima* perhaps comes closest to filling the void made by the destruction by blight of the American chestnut. The Chinese chestnut makes a larger tree than the Japanese, but smaller than the American and the European. In its growth habits it resembles the American species, shooting upward when grown in thick stands, but it is inclined to sprawl when grown in the open. Its vigorous root system encourages rapid growth and aids resistance to drought. While the trees survive on poor dry soil, they respond strongly to a rich well drained sandy loam. The nuts of the Chinese chestnut are larger than those

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on business stationery.**TAXUS**
HEADQUARTERSBrevifolia
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of the American chestnut, but smaller than the European; the flavor of selected strains is equal to that of the American.

As on other chestnuts, the staminate flowers are catkins and the pistillate flowers are burs, the burs being borne in the axils of the catkins. The odor of the flowers is heavy and pungent, but lasts only a week.

While the Chinese chestnut will not replace the American in forestation, there is great interest in it for nut orchards, because the trees begin to bear when quite young and the nuts are considered superior to the European and Japanese chestnuts. The tree has ornamental value because of the rich dark green color, maintained until frost, when autumn turns it to the rich brown of its near relatives, the oaks. The Chinese chestnut can be used in the small home lot for its nuts, shade and beauty. It makes a picturesque landscape tree like the apple. The illustration on the cover of this issue shows a 15-year-old tree.

A number of selections have been made from seedling strains, and of these Hobson, Carr, Zimmerman, Yankee and Reliable have been named and offered to the public by nurserymen. The Chinese chestnut is grafted by the usual methods, about the time of the last frost. The case for seedling trees is made by Ernest Hemming, who writes again in this issue about his experiences with the tree, which has been the occasional subject of comment before in his column, "This Business of Ours."

ST. LOUIS GROUP MEETS.

The Greater St. Louis Landscape and Nurserymen's Association met December 16 at the offices of Charles W. Fullgraf, landscape engineer, Clayton, Mo. Stephen Beer presided at a well attended meeting.

John Sanders, of the Sanders Nursery, Inc., suggested that the association consider the idea of forming a clearing house for expediting work, especially planting, as the labor situation is becoming such that individually little is being accomplished. This suggestion was given considerable discussion on the floor, and it was decided to turn the matter over to the board of governors for consideration.

Fred Larsen, who has been secretary of this association for a number of years, was presented with a gold pen and pencil set by the association, as he expects to leave shortly for military service.

MICHIGAN GROWN SHADE TREES**For Spring 1943 Delivery****ORNAMENTAL TREES**

	Per 100
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Ginnala—Amur Maple	
3 to 4 ft.	\$48.00
4 to 5 ft.	68.00
BETULA	
Pendula—European White Birch	
4 to 5 ft.	40.00
5 to 6 ft.	45.00
6 to 8 ft.	75.00
8 to 10 ft.	100.00
FRAXINUS	
Americana—White Ash	
8 to 10 ft.	75.00
10 to 12 ft.	100.00
1 1/2 to 2 ins.	150.00
GLEMOSIA	
Triacanthos Inermis—Thornless Honey Locust	
6 to 8 ft.	75.00
8 to 10 ft.	100.00
PLATANUS	
Occidentalis—American Planetree	
8 to 10 ft.	90.00
10 to 12 ft.	125.00
1 1/2 to 2 ins.	225.00
2 to 2 1/2 ins.	275.00
POPULUS	
Alba Bolleana—Bolleana Poplar	
6 to 8 ft.	50.00
8 to 10 ft.	60.00
10 to 12 ft.	80.00
Canadensis—Carolina Poplar	
10 to 12 ft.	50.00
1 1/2 to 2 ins.	70.00
2 to 2 1/2 ins.	100.00
Nigra Italica—Lombardy Poplar	
8 to 10 ft.	30.00
10 to 12 ft.	40.00
1 1/2 to 2 ins.	50.00
2 to 2 1/2 ins.	75.00
SORBUS	
Aucuparia—European Mountain Ash	
6 to 8 ft.	75.00
8 to 10 ft.	90.00
10 to 12 ft.	125.00
FLOWERING TREES	
CRATAEGUS	
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5 to 6 ft.	125.00
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4 to 5 ft.	20.00
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2 to 3 ft.	35.00
3 to 4 ft.	45.00
4 to 5 ft.	50.00
RHUS	
Cotinus—Purple Fringe or Smoke Tree	
3 to 4 ft.	30.00
4 to 5 ft.	35.00
5 to 6 ft.	50.00
We have many other varieties of trees and shrubs in quantity and we cordially invite your inquiries on any items in which you are interested.	

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Evergreens and Lining-out Stock**LAKE'S**
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Diseases of Trees

Gleanings from the Latest Reports of Scientific Research

By Leo R. Tebon

CONIFERS DAMPING OFF IN CANADIAN NURSERIES.

An extensive study of damping-off as it occurs in Canadian evergreen nurseries was conducted between 1931 and 1936 by Dr. René Pomerleau, forest pathologist for the Canadian ministry of lands and forests, and the results of his studies were published in June, 1942. Rich in detailed observations and useful data, Dr. Pomerleau's report might well be read in full by those having a reading knowledge of French. Here only the following summary can be given:

In Canada, as in the United States and elsewhere, coniferous seedling beds are extensively damaged by damping-off. Data taken at the Berthier nursery over a period of years show that the damage varies greatly from year to year. In certain years, as in 1934, as many as ninety-seven per cent of the seedlings can be ruined, while in the best years the damage will run to twenty per cent.

The injury to seedlings includes both the rotting of the stem at the soil line, which is the condition normally recognized as damping-off, and the rotting of rootlets shortly after germination of the seeds. These two types of injury account for most of the damage caused by the disease. Also, retarded or late wilting of seedlings occurs as a result of the rotting of roots, and rotting of the top of the seedling occurs when infection takes place in the cotyledons as they emerge from the soil.

As causes of damping-off, three kinds of soil-inhabiting fungi are of outstanding importance. If the soil is wet and sufficiently warm—above 60 degrees Fahrenheit—at the time of germination, *Pythium debaryanum* will be most damaging. Throughout the period when seedlings are susceptible to damping-off, *Rhizoctonia solani* is certain to cause appreciable damage. And toward the end of the period of susceptibility, several kinds of fusarium attack the seedlings. The importance of each of these fungi varies from year to year, according to weather, soil temperature, soil moisture and other factors. While in years favorable to them *pythium* and *rhizoctonia* are extremely destructive, over a period of years the fusaria are the principal causes of annual losses.

In any year, development of damp-

ing-off is strongly conditioned by weather and related factors. Rise of soil temperature to or above 60 degrees in the spring, if followed by a period of rainfall, is certain to result in serious damage from damping-off. If seeding is done late in the spring, soil temperature and moisture are conducive to heavy damage. With autumn seeding, on the other hand, germination occurs earlier in the spring and the seedlings escape attack.

Although soil rich in organic material favors germination, it can also increase the percentage of seedlings attacked, especially if the season is wet. Method of seeding, whether broadcast or in furrows, does not affect the amount of injury, and sheltering the rows of seedlings with boards is about as advantageous as with lattices.

Least damage occurs when pine seeds are planted at a depth of one-fourth inch and spruce seeds at a depth of one-eighth inch. Density of seeding, likewise, should not exceed 150 seeds to the foot in furrows or 500 seeds to the square foot when broadcast. If heavier seeding is used, damping-off will be more destructive.

Chemical treatment of the soil may also be employed to reduce damping-off. When used for this purpose, mercury salts and formaldehydes tend to reduce germination. Also, when seeding is done in the fall and the soil treatment is given in the spring, the treatment appears to hinder germination. But with spring seeding, three substances can be used to advantage. They are zinc sulphate, aluminum sulphate and sulphuric acid. They should not be used in combination, but one or another of them may be employed alone, dissolved in water and applied to the seedbed at the rate of one pint of solution per square foot. To be effective, zinc sulphate should be applied at the rate of one-quarter ounce per square foot of seedbed, aluminum sulphate at the rate of one-half ounce and sulphuric acid at the rate of one-eighth fluid ounce. To make up the proper solutions, it is necessary only to dissolve the chemical in water at the rates of one-quarter, one-half and one-eighth ounces respectively per pint of water.

L. R. T.

O. K. RANUM, owner of the Dodgeville Ranum nursery, Dodgeville, Wis., died December 1 at the age of 83 years.

SPRAY HUMIDIFICATION.

[Continued from page 6.]

with a plant growth substance. The system is ideal for cuttings with large, drooping leaves. Large cuttings from young trees of tung, both *Aleurites fordii* and *A. montana*, were rooted readily in one instance in which additional plants of certain seedlings were desired as stocks for budding. Both the coniferous and the broad-leaved evergreen plants may be handled by this system.

The easy rooting of greenwood cuttings of many trees of orchard and forest would be highly desirable. Spray humidification has made possible some advances in this respect, although the problem is far from being solved. Flowering dogwood, redbud, mulberries and red maple rooted freely from cuttings taken from outdoor trees. Tulip poplar, elm and sugar maple could, however, be rooted satisfactorily only from cuttings taken from tubbed plants grown in the greenhouse. Spray

HOBBS

APPLE, 1 and 2-yr., leading varieties.

ELM—MOUNTAINASH—BIRCH,
Cut-leaf Weeping—WHITE DOGWOOD—GINKGO — NORWAY
and SOFT MAPLE — PIN, RED,
BURR and WHITE OAK—LOMBARDY POPLAR—REDBUD—
SWEET GUM—CRATAEGUS—
THURLOW WILLOW.

BARBERRY, Green and Red.

BEAUTY BUSH.

PRIVET, Amur and Ibeta.

EVERGREENS, up to 6 feet.

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Oldest and largest Nursery in Indiana
Established 1875.

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2-yr. old—Strong Seedlings

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Lentago	Acutifolia
Molle	Divaricata
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	Per 1000
2 yr. Am. Red Pine.....	\$10.00
2 yr. Pitch Pine.....	8.00
2 yr. Colo. Blue Spruce.....	10.00
2 yr. Scotch Pine.....	10.00
2 yr. Austrian Pine.....	12.00

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Lining-out Stock a Specialty
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Also larger grades for landscaping
Send for our wholesale catalogue

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EVERGREEN SPECIALISTS
Largest Growers in America
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Globe Arborvitae, Scotch Pine, Spruce,
Hemlock.

Redbud, Dogwood, Chinese Elm, Lombardy Poplar and Assorted Shrubs.

Visit our nursery, 15 miles from Louisville.

NICK'S NURSERY, Anchorage, Kentucky



humidification, if used in connection with the plant growth substances and if the time of taking the cuttings is correct, extends the present limits of propagation of difficult woody subjects.

OBITUARY.

James M. Pitkin.

James M. Pitkin, Newark, N. Y., died December 21 at the age of 81 years. He was a former postmaster and president of the village of Newark and treasurer of C. W. Stuart & Co., Newark. Survivors are his widow and two daughters, Mrs. Mabel T. Williams, Tryon, N. C., and Mrs. Elizabeth Van Duser, Philadelphia, Pa. Services were held at the Episcopal church at Newark, December 23, and attended by many in the trade, to whom he had long been "Uncle Jim" Pitkin. His brother, William Pitkin, long prominent in A. A. N. affairs and president of the former firm of Chase Bros. Co., Rochester, died in 1936.

Charles I. Allen.

After a lingering illness Charles I. Allen died December 12, one day after his eighty-second birthday. A lifelong resident of Terryville, Conn., he operated the Sylvan Hill Nurseries & Fruit Farm for many years.

Mr. Allen was for twenty-seven years a member of the local school board. He served two years in the state legislature and in addition was justice of the peace, then grand juror in the local court until the time of his retirement. He held the position of tree warden for the town of Plymouth for more than forty years.

Survivors are his widow, two daughters, a brother, a sister and seven grandchildren.

CATALOGUES RECEIVED.

Richmond Nurseries, Richmond Beach, Wash.—Wholesale catalogue of nursery stock, 24 pages and cover, 5½x5¾ inches.

W. B. Clarke & Co., San Jose, Cal.—Wholesale price list, broad-leaved evergreens and deciduous trees and shrubs, 40 pages and cover, 4x9 inches.

Gardens of the Blue Ridge (E. C. Robbins), Ashford, N. C.—Wholesale price list, hardy native deciduous trees and shrubs, ferns and rock garden plants, 36 pages, 6x8½ inches.

Carroll Gardens, Westminster, Md.—Illustrated circular (wholesale) of novelties in hardy plants, 4x10 inches.

Herbst Bros., New York, N. Y.—Price list of seeds for nurserymen, 36 pages, 4x9 inches.

Twitty Nursery Co., Texarkana, Tex.—Trade price list of nursery stock, 30 pages and cover, 4x9 inches.

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Ornamental and Tree Seedlings

Per 100 Per 1000

Birch, American White.		
12 to 18 ins.	\$1.80	\$15.00
18 to 24 ins.	2.50	22.00
2 to 3 ft.	3.50	30.00
3 to 4 ft.	5.00	48.00

Birch, Paper or Canoe.		
6 to 12 ins.	2.00	18.00
12 to 18 ins.	2.50	22.00
18 to 24 ins.	3.50	30.00
2 to 3 ft.	5.00	48.00

Box Elder.		
2 to 3 ft.	1.50	12.00
3 to 4 ft.	2.00	16.00
4 to 5 ft.	2.50	20.00

Buckthorn, Cathartica.		
12 to 18 ins.	1.20	10.00
18 to 24 ins.	1.80	15.00
2 to 3 ft.	2.20	18.00

Buckthorn, Frangula.		
12 to 18 ins.	2.00	16.00
18 to 24 ins.	2.50	22.00
2 to 3 ft.	3.50	36.00

Caragana, Arborescens.		
12 to 18 ins.	.80	6.00
18 to 24 ins.	1.20	9.00
2 to 3 ft.	1.50	12.00
3 to 4 ft.	2.00	16.00

Elm, American.		
2 to 3 ft.	1.20	10.00
3 to 4 ft.	1.80	15.00
4 to 5 ft.	3.00	25.00
5 to 6 ft.	5.00	40.00
4 to 5 ft., branched.	7.50	60.00
5 to 6 ft., branched.	12.00	96.00

Elm, Chinese.		
2 to 3 ft.	1.20	10.00
3 to 4 ft.	1.80	15.00
4 to 5 ft.	3.00	25.00
5 to 6 ft.	5.00	40.00
4 to 5 ft., branched.	9.00	72.00
5 to 6 ft., branched.	15.00	120.00

Hackberry.		
18 to 24 ins.	2.00	18.00
2 to 3 ft.	2.50	22.00
3 to 4 ft.	3.50	30.00

Horsechestnut (Ohio Buckeyes).		
6 to 12 ins.	1.50	12.00
12 to 18 ins.	2.00	16.00
18 to 24 ins.	3.00	25.00
2 to 3 ft.	6.00	48.00

Locust, Honey.		
18 to 24 ins.	1.50	12.00
2 to 3 ft.	2.50	20.00
3 to 4 ft.	3.50	30.00

Maple, Ginnala.		
2 to 3 ft.	2.50	20.00
3 to 4 ft.	3.50	30.00
4 to 5 ft.	5.00	40.00
4 to 5 ft., branched.	9.00	72.00

Maple, Silver.		
2 to 3 ft.	1.50	12.00
3 to 4 ft.	2.20	18.00
4 to 5 ft.	3.00	25.00
5 to 6 ft.	5.00	40.00
4 to 5 ft., branched.	7.50	60.00
5 to 6 ft., branched.	12.00	96.00

Mountain Ash, European.		
6 to 12 ins.	1.80	15.00
12 to 18 ins.	2.50	20.00
18 to 24 ins.	3.50	30.00
2 to 3 ft.	5.00	40.00

Mulberry, Russian.		
18 to 24 ins.	2.50	20.00
2 to 3 ft.	3.50	30.00
3 to 4 ft.	5.00	40.00
4 to 5 ft.	7.50	60.00

Russian Olive.		
18 to 24 ins.	2.50	20.00
2 to 3 ft.	3.50	30.00
3 to 4 ft., branched.	5.00	40.00
4 to 5 ft., branched.	12.00	96.00

Thorn, Crataegus (Mollis and Punctata).		
12 to 18 ins.	2.50	20.00
18 to 24 ins.	3.00	25.00
2 to 3 ft.	5.00	40.00
3 to 4 ft.	7.50	60.00

All the above listed liners are in storage in quantity and can be shipped on short notice.

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Coming Events

ON THE CALENDAR.

January 3 and 4, Georgia State Nurserymen's Association, Holman hotel, Athens.

January 5, Massachusetts Nurserymen's Association, Hotel Kenmore, Boston.

January 5 to 7, 1943, Western Association of Nurserymen, Kansas City, Mo.

January 6, Missouri State Nurserymen's Association, Muehlebach hotel, Kansas City.

January 7 and 8, Nebraska Nurserymen's Association, Cornhusker hotel, Lincoln.

January 12 to 14, Illinois State Nurserymen's Association, including A. A. N. central regional meeting, La Salle hotel, Chicago.

January 15, New York State Nurserymen's Association, Rochester.

January 20 and 21, Oklahoma Nurserymen's Association, Huckins hotel, Oklahoma City.

January 21, Connecticut Nurserymen's Association, Hartford.

January 21 and 22, Ohio Nurserymen's Association, Deshler Wallick hotel, Columbus, following short course at Ohio State University, January 19 and 20.

January 26, Indiana Association of Nurserymen, Antlers hotel, Indianapolis.

January 27, Oregon Association of Nurserymen, Heathman hotel, Portland.

January 27, New Jersey Association of Nurserymen, Hotel Hildebrecht, Trenton.

January 27 and 28, Michigan Association of Nurserymen, Hayes hotel, Jackson.

February 2 to 4, New England Nurserymen's Association, Hotel Kimball, Springfield, Mass.

February 9 and 10, Pennsylvania Nurserymen's Association, including A. A. N. eastern regional meeting, Philadelphia.

February 11 and 12, Wisconsin Nurserymen's Association, Schroeder hotel, Milwaukee.

NEBRASKA MEETING.

The annual meeting of the Nebraska Association of Nurserymen will be held on the evening of January 7 and all day January 8, at the Cornhusker hotel, Lincoln. Richard P. White, executive secretary of the American Association of Nurserymen, W. J. Smart, D. Hill Nursery Co., Dundee, Ill., and F. R. Kilner, publisher of the American Nurseryman, will journey up from Kansas City for the event after attending the convention of the Western Association of Nurserymen.

On the evening of January 7 there will be an informal meeting of the nurserymen with the visitors from Kansas City upon their arrival.

On the morning of January 8 there will be a business meeting, conducted by President Erickson. Review of the business outlook will be presented by Lloyd Moffet, Fremont, from the viewpoint of the wholesale grower; E. H. Smith, York, retail nurseryman, and Paul

Wilkinson, Shenandoah, Ia., mail-order nurseryman.

At luncheon, guests from the University of Nebraska and the extension department of the college of agriculture will be entertained.

In the afternoon Richard P. White will discuss national affairs pertaining to the nursery business, W. J. Smart will speak on "New Outlets for Our Stock," and F. R. Kilner will comment on the current situation. Vernon Marshall, Arlington, will conduct a question box discussion.

PLAN WESTERN PROGRAM.

The fifty-third annual meeting of the Western Association of Nurserymen will be held at the Hotel Muehlebach, Kansas City, Mo., January 5 to 7.

A feature of the program will be a panel discussion, "Adapting of service and selling to wartime conditions," with speakers covering the following phases: Landscaping, agency, catalogue and wholesale.

The customary banquet will be held Wednesday evening, January 6, for nurserymen and members of their families. Group singing will be led by Russell Howard. The address of the evening will be made by Dean David L. MacFarlane, Kansas State Teachers' College, Emporia, popular after-dinner speaker.

The program arranged by Chet G. Marshall and his committee is as follows:

JANUARY 6, 10 A. M.

Roll call and introduction of members.
Application for membership.
Reading of minutes.
Appointment of committees.
Report of secretary-treasurer, C. C. Smith.

Address of welcome, by C. A. Chandler.
Remarks, by President Charles A. Scott.
"Control of Phomopsis Blight in Cedar Seedbeds," by C. M. Slagg, U. S. D. A., Manhattan, Kan.

"Control of Three Red Cedar Scales," by Prof. George A. Dean, Kansas State College, Manhattan.

JANUARY 6, 2 P. M.

"Federal Credits of Possible Interest to Nurserymen," by P. L. Gaddis, Farm Credit Administration, Kansas City, Mo.

Panel discussion, "Adjusting our Selling to Wartime Conditions": Agency, led by M. R. Cashman, Owatonna, Minn.; catalogue, led by Paul Wilkinson, Shenandoah, Ia.; landscape, led by Harold Parnham, Des Moines, Ia.; wholesale, led by David Lake, Shenandoah, Ia.

JANUARY 7, 10 A. M.

"What Is Ahead of Us?" by Richard P. White, A. A. N. executive secretary.
Committee reports.
Election of officers.

ILLINOIS PROGRAM.

The complete program for the annual meeting of the Illinois State Nurserymen's Association, to be held at the La Salle hotel, Chicago, January 12 to 14, has been announced by Secretary Miles W. Bryant. The sessions will be confined to the afternoons of the three days as in previous years, the only morning meeting being that of the Illinois chapter of the American Association of Nurserymen at 10 a. m. January 14.

The first day's session will include the annual conference of the central region of the American Association of Nurserymen. After the formal opening of the convention, the president's address by Charles Fiore and the treasurer's report by Elmer Palmgren, the meeting will be turned over to Arthur H. Hill, executive committeeman of the region, who will preside. Frank S. LaBar, A. A. N. president, will speak on "The Victory Program of the A. A. N." Then Richard P. White, executive secretary, will lead a discussion on "The Nurserymen's Wartime Problems" and will tell about the latest developments and regulations affecting nurserymen, with plenty of time for questions and discussion from the floor. The members of the executive committee of the A. A. N. will be present to assist in the discussion.

The session Wednesday afternoon, January 13, will open with a symposium on nursery supplies, including a discussion of shortages, restrictions and possible substitutes. Introduction and information on miscellaneous items will be given by F. R. Kilner, editor of the American Nurseryman. Paper and twine will be discussed by J. A. Ronnell, Eagle Wrapping Products Co., Chicago, Ill.; fertilizers, by O. P. Fox, Swift Fertilizer Works, Hammond, Ind., and insecticides by J. Carl Dawson, Dow Chemical Co., Midland, Mich.

Two important speakers have been secured on the most recent governmental controls, and they will give up-to-the-minute information on two subjects whose effect on nursery operations is only beginning to be felt. W. J. McLarney, mediation officer, central regional office, War Labor Board, Chicago, will speak on "Wage and Salary Stabilization." Col. Paul G. Armstrong, state director of selective service, Springfield, Ill., will speak on "Selective Service and Man Power."

The final session, January 14, will open with the usual luncheon, and the address will be made by one of the outstanding speakers of the middle west on social and economic prob-

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 10 to 15 ins., \$80.00 per 1000.
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 1,000 Colorado Blue Spruce.
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 Nandina Seed (berries) \$1.00
 Cherry Laurel Seed (berries)25

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lems, Rabbi Charles E. Schulman, of North Shore Congregation Israel, Glencoe, Ill., whose subject will be "Today's Challenge to American Life."

Reports of committees and election of officers will conclude the meeting.

LANDSCAPE MEN TO MEET.

At the request of President W. A. Natorp, a call has been sent by Secretary Harold E. Hunziker for a meeting of the officers and members of the executive committee of the National Landscape Nurserymen's Association, at the LaSalle hotel, Chicago, Monday, January 11, at 2 p. m., the day before the central regional meeting of the A. A. N. and the convention of the Illinois Nurserymen's Association.

"There are many things that have happened to the nursery business, and especially to the landscape nurserymen, even since our meeting in Kansas City," stated Secretary Hunziker in his call. "There should be many things to talk over to try to help landscape nurserymen to plan their war program."

If any landscape nurseryman has particular problems which he would like to bring before this committee meeting, he can make an appointment by writing Secretary Harold E. Hunziker, Niles, Mich.

GEORGIA PROGRAM.

The sixth annual meeting of the Georgia State Nurserymen's Association will be held at the Holman hotel, Athens, Ga., January 4, with an informal get-together on the preceding evening.

The morning session will open at 9:30 in the lecture room of the landscape architecture building on the campus of the University of Georgia. Prof. Roy Bowden, of the horticulture department, will speak on the subject, "Survey of Present-day Problems of the Nurserymen"; Prof. Julian Miller, of the plant pathology department, on "Diseases of Ornamental Plants," and Miss Louise Wier, of the landscape architecture department, on "Planting Design." At noon, in the gallery of the fine arts building, a talk on "Use of Plants in Camouflage" will be given by Wilfred J. Gregson, camouflage section, district engineer's office, Jacksonville, Fla.

In the afternoon, in the landscape architecture building, will be held a business meeting, followed by a round-table discussion led by Donald M. Hastings, Atlanta.

The officers of the association are: President, James A. Stubbs, Atlanta;

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Sturdy and pot-bound.

Abelia Edward Goucher, 2 1/4-in. pots, 10c

One of the finest items in the broad-leaved line. Flowers are large and rich pink. Foliage very glossy. Excellent compact pendulous habit of growth. Hardy as grandiflora.

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Ilex crenata rotundifolia, 2 1/2-in. pots, 12c

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The better shrubs and trees,
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vice-president, C. N. Morse, Chattanooga, and secretary-treasurer, Edwin S. Kellogg, Athens. The program and arrangements committee is composed of Prof. Hubert B. Owens, H. M. Dudley and Charles N. Morse.

NEW YORK PROGRAM.

At a meeting of the executive committee, December 23, a tentative program was arranged for the annual meeting of the New York State Nurserymen's Association, to be held at Rochester, January 15. The following subjects and speakers are scheduled, the afternoon concluding with reports of committees and the election of officers:

Address by the president, Harry L. Glen, Rochester.

"Insect and Disease Problems and the State Nursery Inspection Service," by Dr. A. B. Buchholz, Albany.

"Fruits New and Old of Timely Interest to Nurserymen," by Dr. H. B. Tukey, Geneva.

"What the Experiment Station Can Do for the Nursery Industry," by Dr. A. J. Heinicke, Geneva.

"The Nursery Industry and the 1943 Food Goals," by Carl Wooster, Union Hill.

"The Victory Garden Program for 1943," by speaker to be announced.

"The National Garden Institute Program for 1943," by E. S. Boerner, Newark.

"The Nursery Industry in Wartime," by Richard P. White, Washington, D. C.

ON OKLAHOMA PROGRAM.

Additional speakers from the staff of the Oklahoma A. & M. College are announced for the program of the convention of the Oklahoma State Nurserymen's Association, to be held at the Huckins hotel, Oklahoma City, January 20 and 21.

The victory garden session will embrace a cracking demonstration of new walnut varieties, in charge of Dr. F. B. Cross. Dr. H. I. Featherly, of the botany department, will describe a project under way at the college for obtaining rotenone from the common Oklahoma shrub, *Amorpha fruticosa*. Dr. K. Starr Chester, Dr. F. A. Fenton and Dr. F. B. Cross will be in charge of technical exhibits by their departments and will be primed to answer questions.

Dr. C. F. Daley, now head of the bureau of business research at the University of Oklahoma, will make the luncheon address, January 20, in place of Dr. Findley Weaver, who was scheduled as speaker in the program published in the preceding issue.

The importance of food production will be stressed at the convention, and the urgency of full participation by nurserymen, says Secretary J. A. Maddox.

NEW JERSEY PROGRAM.

The program announced for the annual convention of the New Jersey Association of Nurserymen, to be held at the Hotel Hildebrecht, Trenton, covers two sessions January 27, one in the morning, at which President Walter M. Ritchie will preside, and one in the afternoon, at which Arthur Levick, first vice-president, will occupy the chair. The day's schedule follows:

Reports of officers and committees.

"Taxation of Nursery Stock," by C. W. M. Hess, Mountain View, and George White, Rutherford.

"The New Jersey Farm Bureau and the New Jersey Association of Nurserymen," by Herbert W. Voorhees, president, New Jersey Farm Bureau.

"Rationing Problems," by E. V. Lipman, executive secretary, U.S.D.A. war board for New Jersey.

"Wartime Cooperation of Nurserymen," by Louis C. Schubert, New Brunswick.

Luncheon.

"Protective Concealment," by William Flemer, Jr., chairman of protective concealment committee, A. A. N., and Frank S. LaBar, Stroudsburg, Pa., president, A. A. N.

"Victory Gardens and Shows for 1943," by J. W. Johnston, garden editor, New York Herald Tribune.

Presentation of citation for distinguished service—Col. Edward Phillips, Andover.

Presentation of award for 4-H home beautification, by K. W. Ingvalson, state 4-H club leader, New Brunswick.

"Activities of A. A. N.," by Dr. R. P. White, executive secretary, A. A. N., Washington, D. C.

Election of officers.

Round-table discussion, George Jennings, Ralston, chairman.

PENNSYLVANIA PLANS.

The Pennsylvania Nurserymen's Association will hold its annual meeting at Philadelphia, February 9 and 10.

Since Willard Van Heiningen, chairman of the A. A. N. eastern regional group, is at present working in Florida as a civilian instructor in radio engineering for the War Department, Vice-chairman J. Frank Styer has invited the chapters in the region to meet with the Pennsylvania Nurserymen's Association at Philadelphia, and it is proposed that the afternoon of February 9 will be given over to the regional meeting, with Richard P. White, A. A. N. executive secretary, present to lead discussion. A banquet at 6 p. m. will be addressed by a representative of the Office of Defense Transportation.

The Pennsylvania meeting will be featured by a session on delivery and landscaping war problems and also by a showing of a remarkable collection of color slides of horticultural subjects by Adolph Muller.



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PROGRAM AT PORTLAND.

The midwinter meeting of the Oregon Association of Nurserymen will be a day-long schedule at the Heathman hotel, Portland, January 27, beginning at 9 a. m.

At the morning session, when called to order by President J. E. French, reports will be presented by Secretary Samuel J. Rich, Treasurer Avery H. Steinmetz and the chairmen of standing committees. J. S. Wieman, superintendent, will speak for the bureau of nursery service, and advisory board members will report for their respective constituencies. Findings of the experimental station staff will be presented by Henry Hartman and his associates. Meadow nematodes will be the subject of a talk by W. B. Courtney, of the federal station at Sumner, Wash.

At the afternoon session, S. B. Hall, Multnomah county agricultural agent, will talk about crops grown by nurserymen other than the usual nursery products, covering field, garden, drug and other plants. A round-table discussion will be based on questions to be submitted by members in writing to Walter Dimm, representing the nurserymen. Other members of the discussion panel will be representatives from the Office of Price Administration and the War Production Board and Marshall Danna.

In the evening will be held a banquet, with an inspirational talk by a member of the staff of Oregon State College, Corvallis.

OHIO ASSN. PROGRAM.

The program for the annual meeting of the Ohio Nurserymen's Association has been completed by President John D. Siebenthaler and will occupy the two days of January 21 and 22, at the Deshler-Wallick hotel, at Columbus, following the two-day short course held by the horticulture department of Ohio State University, the program for which appears in an adjoining column.

In addition to the usual business to be transacted, the Ohio association's program includes panel discussions and speakers on subjects of immediate importance because of the effect of wartime conditions and government controls on the trade's operations. The program follows:

JANUARY 21, 10 A. M.

Roll call.

Report of secretary-treasurer, by Roger Champion.

Reports of committees: Membership, by Roger Champion; legislative, by Clarence

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FRUIT TREES
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Flowering trees, Weeping trees.
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O. Siebenthaler; taxus herbarium, by L. C. Chadwick; uniform guarantee, by Walter Burwell; executive, by John D. Siebenthaler. Appointment of auditing and nominating committees.

"Progress Report on Plant Pest Control in 1942," by John W. Baringer, specialist in charge, insect and plant disease control, department of agriculture, Columbus.

"Federal Rationing as It Affects the Nurseryman," by Harry T. Beckman, administrator, state ration board, Office of Price Administration, Columbus.

JANUARY 21, 2 P. M.

"A Message from the American Association of Nurserymen," by Frank S. LaBar, president, Stroudsburg, Pa.

Panel discussions: "Wartime Problems of the Nursery Industry," led by Dr. J. H. Gourley, department of horticulture, Ohio State University. "Shortage of Supplies," by Alex Laurie, Ohio State University; "Labor," by D. Barrett Cole, Painesville; "Customer Contact and Deliveries," by W. A. Natrop, Cincinnati; "Costs Versus Selling Price," by Dr. L. C. Chadwick, Ohio State University.

JANUARY 21, 7 P. M.

Eleventh annual "YE OLDE TIME DINNER" and entertainment. Hall of Mirrors, Deshler-Wallick hotel.

JANUARY 22, 10 A. M.

"The Nursery Industry as Related to the Food Industry," by L. L. Rummell, public relations department, Kroger Grocery & Baking Co., Cincinnati.

"What Makes Soils Productive," by Dr. G. D. Scarseth, soil chemist, Purdue University, La Fayette, Ind.

"New Crop Possibilities for the Nurseryman," by Ernest L. Little, managing

director, National Farm Chemurgic Council, Columbus.

Report of nominating committee and election of officers.

JANUARY 22, 12 NOON.

Luncheon meeting, Ohio chapter, No. 1, American Association of Nurserymen.

Report of delegates to 1942 convention.

Report of regional meeting at Chicago, January 13, 1943.

Report of victory garden harvest shows, by W. A. Natrop.

Election of officers.

Election of delegates to 1943 convention.

JANUARY 22, 2 P. M.

Panel discussion: "Supplemental Nursery Emergency Practices," led by Harry R. O'Brien, Worthington, O. "Reducing Catalogue Lists," by Louis Hillenmeyer, Sr., Lexington, Ky.; "New Sales Outlets," by F. R. Kilner, editor, American Nurseryman, Chicago, Ill.; "New Nursery Crops," by Harry R. O'Brien.

Unfinished business.

Appointment of committees.

New business.

Selection of place for summer meeting.

OHIO SHORT COURSE.

The tentative program has been announced for the fourteenth annual short course for nurserymen, landscape gardeners and arborists, to be held at Ohio State University, Columbus, in Campbell hall, January 19 and 20, just in advance of the annual meeting of the Ohio State Nurserymen's Association. The two

full days of discussion will contain much important and timely information.

The tentative program is as follows:

JANUARY 19, 10:30 A. M.

"Report on Some Experimental Projects at O. S. U. during 1942: Penetration of Fertilizers from Surface Applications. Nitrogen, Phosphorus and Potash Levels for Seedling Oaks. Pruning Wound Dressing Tests," by L. C. Chadwick.

JANUARY 19, 1:30 P. M.

"Tools and Arborists' Supplies," by John Leonard, A. M. Leonard & Son, Piqua, O.

"Supplies of Fertilizers," by Hartle Lucks, Smith Agricultural Chemical Co., Columbus, O.

"Supplies of Insecticides and Fungicides," by Dwight DeLong.

"Winter Care of Rationed Farm Machinery," by G. W. McCuen.

Question period, conducted by short course staff and others, on insect and disease control, cultural practices and federal regulations.

Meeting of Ohio chapter, National Shade Tree Conference.

JANUARY 19, 7:30 P. M.

"My Experiences with Some of the Newer Woody Plants," by A. M. Grube, Lakewood Nurseries, Lakewood; Walter Burwell, Burwell Nurseries, Columbus; John Siebenthaler, Siebenthaler Co., Dayton, and L. C. Chadwick.

JANUARY 20, 9 A. M.

"The Victory Garden Program," by Victor H. Ries,

"Vegetable Production by Nursery-

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men": In greenhouse by Earl Tussing. In field, by Joseph Boyd.

"Small Fruit Production for Nurserymen," by Frank Beach.

JANUARY 20, 1:30 P. M.

"Looking Ahead," by F. R. Kilner, editor, American Nurseryman, Chicago.

"Medicinal Plants for Nurserymen": General aspects, by Alex Laurie; field production, by Eugene Stillings.

"Growing Soybeans as a War Emergency Crop," by R. D. Lewis.

Except where otherwise indicated the speakers on the program are members of the staff of Ohio State University.

MICHIGAN PROGRAM.

The program for the twenty-first annual convention of the Michigan Association of Nurserymen, to be held at the Hotel Hayes, Jackson, January 27 and 28, is as follows:

JANUARY 27, 11 A. M.

President's address, by Harold P. Paul, Monroe.

Secretary-treasurer's report, by Ralph I. Coryell, Birmingham.

Appointment of temporary committees. Committee reports.

JANUARY 27, 1:30 P. M.

Bud certification. Report of bureau of orchard and nursery inspection, by C. A. Boyer, director.

Discussion of nursery supplies, led by Arthur Watson, Grand Rapids, and B. J. Manahan, Romeo.

Man power problems.

Election of officers.

JANUARY 27, 6:30 P. M.

Annual banquet.

"Prospects for 1943," by J. G. Hayes, East Lansing.

JANUARY 28, 8 A. M.

Breakfast meeting, A. A. N. chapter—All nurserymen are welcome.

"Nursery Trade Practices for 1943," panel discussion: Mail order, by Elden Burgess, Galesburg; landscape, by Harold Hunziker, Niles; wholesale, by Harry Malter, Monroe.

"Activities of American Association of Nurserymen," by Richard P. White, executive secretary, Washington, D. C.

JANUARY 28, 1:30 P. M.

Business session: Resolutions, recommendations, unfinished business.

TENNESSEE CANCELS.

The annual convention of the Tennessee State Nurserymen's Association has been canceled on account of gasoline and tire rationing. The association may hold a late spring or summer meeting, but this has not yet been decided upon, states Secretary G. M. Bentley.

NEW ENGLAND DATES SET.

The New England Nurserymen's Association, which maintains 100 per cent membership in the American Association of Nurserymen, will hold its annual meeting at the Hotel Kimball, Springfield, Mass., February 2 to 4. This year the meeting will take the form of a war council

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THIN-SHELL Black Walnuts, rapid growers, beautiful shades; bear second year. Nuts large, easily cracked. Wholesale, retail catalogue free. CORSICANA NURSERY, Corsicana, Texas.

PITZER JUNIPER, 1-0., 15 to 18 ins., 3-yr. from nursery rows, 35c; 19 to 24 ins., finished B&B, \$1.00.

NICK'S NURSERY, Anchorage, Ky.

ARP NURSERY CO., a dependable source for Pecan, Fruit and Rose stock on unexcelled root system. Wholesale catalogue only, Box 867, Tyler, Tex.

Early-bearing budded and grafted Papershell Pecan trees, Peaches, Pears, Figs, Grapes, Plums, Apples, Strawberries, Youngberries, Boysenberries. New crop Pecan nuts. Catalogue free. Bass Pecan Co., Lumberton, Miss.

EVERGREEN TREE SEEDS.

Minnesota White Pine (*Strobus*), \$1.00 per lb. Minnesota Norway Pine (*Resinosa*), \$4.80 per lb. New crop now ready. List Free.

AYRES EVERGREEN NURSERY, Aitkin, Minn.

SEEDS.

Canadian Hemlock Tree Seeds, \$4.50 per lb.; White Pine, \$1.50; Choke Cherries, d.b., \$1.00; Hex Verticillata, d.b., \$1.00. Prepaid N. S. HAYDEN, Gorham, Me.

25 Aloes, 25 Echeverias, 100 Succulents, all assorted, 10 Cacti, 10 Stapelias, 10 Gasterias. All for \$4.50.

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COLLECTED STOCK.

Collected Hemlock Seedlings. Hemlock transplants and Barberry transplants. It will pay you to get our prices.

TWIN CEDAR NURSERY, Williamsburg, Mass.

PEONIES, SPECIAL OFFER.

We are moving Festiva Maxima, white; Frans, red; and Floral Treasure, pink; for limited time, \$10.00 per 100.

PHIL LUTZ PEONY FARM, ROONVILLE, IND.

40,000 2-yr. Japanese Barberry seedlings, fairly well branched, 15 to 24 ins., \$20.00 per 1000. 5,000 Grapevines, 6 varieties, \$8.00 per 100. 5,000 Spiraea Vanhoestel, 2 to 3 ft., \$8.00 per 100; 3 to 4 ft., \$10.00 per 100.

HOME NURSERY CO., Fort Gay, W. Va.

UNDERSTOCKS.

Understock of Rhododendron Ponticum, Juniper Virginiana, Norway Spruce, American Arborvitae, Retinospora, Japan Maple. Write for Prices.

RHODE ISLAND NURSERIES,

Newport, R. I.

25,000 Sycamore Trees, Shrubs, 10,000 lbs. 1942 crop seeds. Kentucky Coffee tree beans, per lb., 35c; Osage Orange, 50c; Sycamore Platanus, 30c; Althaea, 40c; Regalis, 60c; and American River North Privet, 60c; Catalpa, 50c. 100,000 8-in. cuttings.

SCHROEDER NURSERY CO., Granity City, Ill.

MULTIFLORA ROSE SEED, fresh picked, extra nice. We have a few hundred pounds to spare. Thorny and Thornless. Cash with order. Fresh hips 5 lbs., \$2.00; 50 lbs., \$15.00; 100 lbs. and up, \$25.00. F.O.B. here. Order soon.

Send for trade list of lining-out stock.

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CALIFORNIA PRIVET, heavy 2-yr., cut back, northern-grown, 3 to 4 ft. and 2 to 3 ft. grades at exceptionally low prices, to make room in our storage. Tell us how many and grade you desire. We'll surprise you on price.

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Paulownia (Empress tree), 4 to 7 ft., 1-yr.

whips on 5-yr. roots, 15c per ft. Catalpa (India), branched trees, 4 to 6 ft., 50c; in 100 lots 10 per cent less. Less than 5 trees, 50c extra for packing.

Nandina, 1-yr., seedlings, \$3.00 per 100; \$25.00 per 1000.

FERRILL'S NURSERY, R. 2, Salem, Ore.

50,000 4-yr. EVERGREEN TRANSPLANTS, 2½c to 5c each, less 20 per cent lots of 250. Scarce varieties included. List on request.

BRADEN NURSERY, South Windham, Maine.

Azaleas, Camellias, Gardenias, Nandinas, Ligustrums, Junipers, Thuja and many other items in lining-out and specimen sizes. Send for our list in color of highest-quality stock grown in this section.

BLACKWELL NURSERIES, INC., Semmes, Alabama.

ROSA MULTIFLORA JAPONICA.

Seedlings and cuttings.

Seedlings straight shanked, strong rooted, well graded.

Cuttings well rooted, eye-cued and graded same as seedlings.

Cuttings, 5 to 4 mm. and 4 to 6 mm.

Cuttings, 3 to 4 mm. and 4 to 6 mm. Low prices on reasonable quantities. Supply limited this year. Order now for later delivery and avoid disappointment.

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NEMATODE-RESISTANT PEACH SEED.

U.S.D.A. Introductions from India and China. Shallal and Yunna 55885 and 55886. Harvesting now completed and orders being filled.

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SCREENED LEAF MOLD,

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Genuine Treated BURLAP SQUARES in any quantity. ACORN BAG & BURLAP CO., Water and Ash Sta., Richmond, Va.

SOIL CONDITIONER.

Mikolite mineral soil conditioner is now available for immediate delivery!

Unusual and outstanding as a mulch and sprouting medium.

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Mail postcard for sample and literature.

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Opportunity for a nurseryman and future security. Have small nursery business, pretty fair annual sales, 13-acre Orchard, 10 years old. Four-room modern house, 1½ acres land, on main highway 4½ miles west of Coffeyville, Kan. Will sell for \$5000.00 or lease to experienced nurseryman on shares. State experience. Frank R. Clark, owner, Coffeyville Nursery, P. O. Box 277, Coffeyville, Kan.

SITUATION WANTED

Landscape Superintendent, with gang experienced men, specializing planting defense housing projects, will consider contracting labor for this type work in southern states during winter months. Also equipped to handle large sodding contracts. Address No. 254, American Nurseryman, 508 S. Dearborn St., Chicago.

HELP WANTED

Experienced grower with propagating experience to take charge of nursery farm in active section of middle west. Previous foreman leaves after 22 years of continuous service and you can bank on permanence of position if you can prove qualifications. House furnished good working conditions. Give experience, age, salary desired, references. Address No. 253, American Nurseryman, 508 S. Dearborn St., Chicago.

HELP WANTED

Capable man with nursery experience in propagating, selling and management, for good opening with modern landscape and nursery firm. State qualifications fully and salary desired. Address No. 255, American Nurseryman, 508 S. Dearborn St., Chicago.

and discuss conditions brought about by our war effort.

Frank LaBar, president, and R. P. White, secretary of the national association, will bring Washington's latest developments. Wednesday, February 3, will be educational day, when various nursery and cultural problems will be discussed by members qualified, with a round table following.

The banquet will be at 6:30 p. m., February 3, with appropriate entertainment.

Lester W. Needham, Sec'y.

KANSAS MEETING.

[Continued from page 12.]

come established, he advised clearing away the brush and seeding to brome grass. He has experienced producing a nut crop and being unable to find the nuts after they had fallen unless this is done. He advised planting northern thin-shelled pecans and named varieties of black walnuts. He believes Thomas is the best black walnut so far, for the trees bear well, the nuts are large and crack in halves and the meat is white in color. He has produced English walnuts in Kansas, but declares that grafted black walnuts are a sure bet.

S. Hahn, Coffeyville, another Kansas nut grower, believes that nut growing is a most profitable business. He advised top-working seedling trees or cutting the seedling at the surface of the ground and then inserting a scion of a named variety. His experience with southern papershell pecans was a total failure. However, there are varieties that will do well. Major is a good variety, which originated in Kentucky. The nut is medium to small, nearly round, thin-shelled, a plump kernel and a splendid cracker. The Burlington is a hybrid, originating near Burlington, Ia. It is prolific, producing large crops annually. Mr. Hahn also has the Busseron pecan, a thin-shelled Indiana pecan.

Selected seedlings are commonly used for propagating stock. Many of them produce thin-shell nuts of good size and of excellent quality. Mr. Hahn sprays his pecan trees for scab, using lime-sulphur applied when the catkins are hanging like ropes, but before pollen is given off. A second spray is applied when the nuts form. A regular pecan spray gun is used, and the spray is applied under 800 to 1,000 pounds' pressure.

Cherry Culture.

Wayne Whitney stated that his remarks on cherry culture would be

limited to red cherries, commonly spoken of as sour cherries. Kansas' red cherry trees were killed by the November freeze of 1940, and now is the time to plant large numbers of small orchards to supply local demand. He explained that the site and care are the same as for apples, that cherries should be pruned to a modified leader, but leaders must be longer than for apples. Cherries produce fruit on both spurs and on one-year-old wood. To produce large yields, trees must continue to make much growth.

The planting may be made up of three varieties as follows: Early Richmond, not to exceed one-third of the acreage, as the fruits are excellent for pies, but do not stand up so well for canning. Montmorency for the main crop, as this variety is subject to cherry leaf spot, but fruit is large and in greatest demand. English Morello as a late crop, but since it does not produce so well, plant few trees and charge the latecomers for the fruit.

Mr. Whitney prefers a 9/16-inch tree to large sizes for setting. He advises planting 25x25 feet and spraying when buds open, as petals fall and after picking.

Grape Culture.

Grape culture was discussed by two northeastern Kansas growers. One has vineyards on level fertile loose soil, while the other has vineyards on rolling land. Warren Stricker, Troy, said the most satisfactory

planting distance was eight feet in the row with rows nine feet apart. This allows for disk cultivation and ample room for power spraying. Use a strong corner post when building the trellis. A post every three vines is sufficient. The lower wire is carried three feet above the ground and a second eighteen inches above the first. This allows for free passage of air under the vines, which is believed to aid greatly in reducing loss from rots. Mr. Stricker believes in the use of manure and clean cultivation to reduce hand labor. He has used large quantities of sheep manure and has encouraged strong growth so that he now leaves eighty to 100 buds instead of the recommended forty.

He highly recommended the grape hoe made by the John Deere Co., especially if weed growth is kept down. Spraying is done by a power sprayer using a 5-valve broom attached to the top of the sprayer by means of a ball-and-socket joint from an automobile steering apparatus.

Judge C. W. Ryan, Wathena, reminded the group that in business it is essential to reduce production cost as much as possible. Sidehill vineyards are difficult to maintain. All posts should be set at least two and one-half feet in the ground. He approved Mr. Stricker's cultural directions and advised that constant care and attention to the system adopted is the basis of success.

Apple Orchard Lessons.

The college branch experimental orchard, at Atchison, was abandoned

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TEST it for yourself. Compare results with what you have been getting from your present sprayer. Use any spray solution or cold water paint. Spray your nursery stock, whitewash your greenhouses, barns and tool sheds, inside and out. Note how easily this **Paragon** delivers powerful uniform pressure at the nozzle with little effort at the pump handle. Passes through narrowest aisles without jamming at corners. Automatic agitator prevents solution from settling. We guarantee it never to clog while in use. Ten days trial costs you nothing if not satisfied. If your dealer does not sell the Paragon, mail the coupon today.

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after the 1940 freeze, and in its place a new orchard is being established in Doniphan county. Professor Barnett reviewed the results of the Atchison orchard under the heading "Some of the Lessons Learned," which may be summarized as follows:

1. Jonathan and Winesap are leading apple varieties for northeast Kansas.

2. Three framework branches saved at first pruning time appear to give better modified apple trees than two or four.

3. The high value of the straw mulch method of orchard soil management was demonstrated during the drought periods of the 1930's.

4. Distribution of rainfall through the summer months was shown to be more important than variation in the total season's supply of rain.

5. A full stand of trees must be listed as a requirement for a valuable orchard and is difficult to attain during a drought period.

6. The "footsteps of the owner" are of high importance in the care of a young orchard.

Insect Pests.

Dr. H. B. Hungerford, state entomologist, reported that the Oriental fruit moth has been found in twenty-seven counties in the eastern part of the state. It has not been found so far west as the Arkansas river valley; its northern limit is Atchison county. The enforcement of the Western Plant Board quarantine against the movement of nursery stock forced Kansans last year to provide a methyl bromide fumigation chamber for the treatment of nursery stock.

Dr. Hungerford warned that the November freeze of 1940 killed or crippled thousands of fruit trees and set the stage for an abnormally heavy crop of bark beetles. He explained that there are two kinds to be found; the fruit tree bark beetle and the peach bark beetle. Both rear their young upon weakened trees. The eggs are laid up the branches, and the larvae feed just under the bark. The fruit tree bark beetle makes tunnels which run parallel with the branch, while the tunnels of the peach bark beetle are nearly always transverse to the longitudinal axis. The adults prefer to feed upon healthy trees, returning to weakened trees to lay their eggs. In neglected orchards these beetles constitute a serious threat not only to the weakened trees, but later to the healthy orchards of the area and especially to newly planted orchards.

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A complete job of fitting the soil after plowing. It leaves no wheel tracks on the field. The revolving tines thoroughly mix and aerate the soil evenly, leaving it in a uniformly tilled condition throughout. Depth of operation is up to 12 inches under favorable conditions. Send for details now.

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INCORPORATED
343 KENT AVE. BROOKLYN, N. Y.

The American elm sawfly has been destructive on elms of a few southern Kansas towns during the past two seasons. The full-grown larvae overwinter in the soil below the tree branches. The control measure recommended is arsenate of lead spray applied while the larvae are feeding upon the leaves.

SOUTHWESTERN NOTES.

Nurserymen who a short time ago were deplored the early snow now realize that they had not seen anything yet when sleet and low temperatures descended upon the midwest in an early and protracted cold spell. The skating on sidewalks and sliding over icy streets which spell fun to the young mean a headache to the nurseryman who still has stock to dig.

The University of Kansas campus is being beautified by substantial contributions of trees from Mr. and Mrs. Irving Hill and W. S. Griesa, the latter of the Mount Hope Nursery, Lawrence. Mr. and Mrs. Hill

Genuine Treated BURLAP SQUARES

In Any Quantity

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Water & Ash Sts.

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gave 350 scarlet oaks, 200 red oaks, 100 bur oaks, twenty-five cypress, twenty-five sycamore, twenty-five birch and twenty-five sophora. Mr. Griesa has given 200 western yellow pines. The donors are paying for the planting as well as for the trees, over half of which have been set out. Most of the planting has been done on the north and east slopes of Mount Oread. The white bark trees are being planted on the shores of Potter lake, where seepage will provide the necessary moisture. The pines are being used chiefly for

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ROSE REGISTRATIONS.

The American Rose Society's registration committee has approved applications for registration of the following roses. Notice of these registrations has been sent to rose organizations in foreign countries and trade papers. If no objections are raised before January 15, 1943, the registration of these names will become permanent as of that date, states R. Marion Hatton, secretary:

Captivator. Hybrid tea. A sport of Better Times, originated by the Joseph H. Hill Co., Richmond, Ind., and to be introduced by it in 1944. The plant is described as upright, with large and leathery foliage and globular buds opening to full flowers four and one-half to five and one-half inches in diameter, with thirty to thirty-five petals of Thulite pink. Strong tea fragrance. Blooms borne singly and abundantly under glass. This takes the place of the rose originally registered by the Joseph H. Hill Co. and reported in Captivator in "Rose Registrations" in The Review of November 5.

The Tank. Hybrid tea. A seedling, cross of Chieftain x Lucile Hill, originated by the Joseph H. Hill Co. and to be introduced by it in 1944. Plant is described as bushy, upright, much-branched, with large leathery foliage. Short-pointed, ovoid buds open to 4 to 5-inch blooms of fifty-five to sixty petals. The color, rose-red. Strong tea fragrance. Blooms borne singly and abundantly under glass. Said to have larger blooms and to be a stronger grower than any greenhouse forcing variety of this color.

Red Delicious. Hybrid tea. Originated by the Joseph H. Hill Co. as a cross of Rome Glory x Chieftain, and to be introduced by it in 1944. Plant is described as bushy, upright, with medium-size, moderately bushy foliage. Ovoid buds open to 4 to 6-inch blooms, with thirty to thirty-five petals of brilliant rose red. Penetrating apple fragrance. Blooms borne singly and abundantly under glass, lasting satisfactorily for five days. Believed important because of its unusual fragrance and brilliant color.

Dinah Shore. Hybrid tea. Reported to be a sport of Jewel, discovered by N. Grillo, Milldale, Conn., and introduced by him this year. Plant is described as upright, with large, leathery foliage, and large, globular buds opening to a globular bloom about five inches across, with seventy-five petals of cerise red. Strong fragrance. Blooms borne singly and abundantly. Claimed to be different in form, size and fragrance.

Victory Stripe. Hybrid tea. Reported as a sport of Jewel, discovered by N. Grillo and introduced by him this year. Plant described as upright, with large, leathery foliage, and large, long-pointed buds opening to full flowers about five inches across, with about fifty petals. The color is variegated cerise-red, with white mixed with a light pink tint. Moderate fragrance. Blooms borne singly and abundantly. Declared the color different from any other rose.

Times Square. Hybrid tea. Originated by Dr. W. E. Lamerts, as a cross of Mrs. Sam McGredy x President Hoover, to be introduced by the Armstrong Nurseries, Ontario, Calif., in 1943. Plant described as upright, bushy, with glossy, leathery foliage. Hardiness untested. Ovoid buds open to 4 to 5-inch blooms, with thirty-five or more petals. The color orange-apricot, with golden center. Strong tea fragrance. Blooms singly and clustered. Said to be similar to California, but with more petals, a better plant with more flowers.

Starlite. Hybrid tea. Originated by the late Dr. J. H. Nicolas, as a cross of an unnamed seedling and White Briarcliff (Mme. Louis Lep.). Plant described as vigorous. Pointed buds open to high-centered blooms five and one-half inches in diameter, with fifty white petals showing a slight cream center. Some fragrance. Blooms singly or clustered. Claimed to be important because of its vigorous growth, no weak side shoots and strong, clean foliage, with more petals and a much larger flower than other white roses.

LAWRENCE HOLMES, formerly with the Lake City Nursery, has bought the Burnside Nursery, Red Wing, Minn., which until recently was operated by Forrest H. Sargent.

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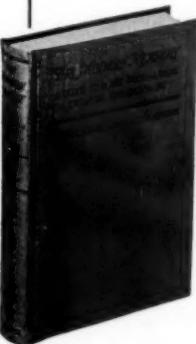
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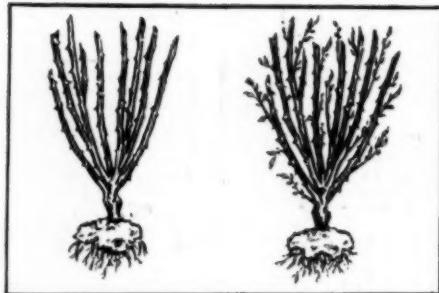
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